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## ABSTRACT

The data in this report show trends in doctorate awards by science and engineering (S&E) field and recipient characteristics, institutions awarding doctorates, and postgraduation plans of recipients. The source of the data is the Survey of Earned Doctorates (SED). The SED is conducted annually for the National Science Foundation (NSF) and four other federal agencies. Information from this survey becomes part of the Doctorate Records File, which is a census of recipients of research doctorates awarded since 1920 by regionally-accredited universities and colleges. Doctoral degrees such as the Ph.D. or D.Sc. are included in these surveys, but first-professional degrees such as the J.D. or M.D. are not. Data for the SED are collected directly from the individual doctorate recipients. The questionnaire is distributed through the cooperation of the Graduate Deans to persons as they are completing their doctorate. The data for a given year include all doctorates awarded in the 12-month period ending on June 30 of that year. These tables present detailed data on S&E doctorate recipients with some totals provided for broad non-S&E fields. Detailed data on non-S&E fields are published in the Summary Report and by other federal sponsors of the SED. The groupings of field specialties into broad fields may differ among the sponsoring agencies according to their missions. Approximately 92% of the annual cohort of doctorate recipients in 1999 responded to the questionnaire. Over the period 1989-1997, the response varied between 92% and 95%. Most of the numbers presented are actual self-reports as there are no adjustments made for nonresponse. For the nonrespondents, partial data from public sources are added; therefore, complete counts are presented for conferred doctorates by field of study and sex of recipient. Because some tables present data subject to nonresponse, these summaries represent the conservative known responses for any data item. Small changes in numbers should be interpreted with caution as numerical trends are affected by fluctuations in response rates, and declines and increases may appear greater than they might be in reality. (ASK)

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# Science and Engineering Doctorate Awards: 1999

Detailed Statistical Tables

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Division of Science Resources Studies  
Directorate for Social, Behavioral, and Economic Sciences

National Science Foundation



January 2001

# **Science and Engineering Doctorate Awards: 1999**

**Detailed Statistical Tables**

**Susan T. Hill, Author**

**Division of Science Resources Studies  
Directorate for Social, Behavioral, and Economic Sciences**

**National Science Foundation**



**January 2001**

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R. Gore, under the direction of John R. Gawalt, Program Director, Information Services Group, prepared the report for publication, providing oversight and direction for editing, composition, printing, and release on the SRS web site ([www.nsf.gov/sbe/srs/](http://www.nsf.gov/sbe/srs/)). Quantum Research Corp. (QRC) of Bethesda, MD prepared the tables. QRC staff members who worked on this project were Joe Singh, Teresa L. Grimes, and Sujata Gamage.

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# GENERAL NOTES

The data presented in this report show trends in doctorate awards by science and engineering (S&E) field and recipient characteristics, institutions awarding doctorates, and postgraduation plans of recipients. The source of the data is the Survey of Earned Doctorates (SED).

The SED has been conducted annually for the National Science Foundation (NSF) and four other Federal agencies. Information from this survey becomes part of the Doctorate Records File, which is a census of recipients of research doctorates awarded since 1920 by regionally-accredited universities and colleges. Doctoral degrees such as the Ph.D. or D. Sc. are included in these surveys, but first-professional degrees such as the J.D. or M.D. are not.

Data for the SED are collected directly from the individual doctorate recipients. The questionnaire is distributed to them through the cooperation of the Graduate Deans to persons as they are completing their doctorate. The data for a given year include all doctorates awarded in the 12-month period ending on June 30 of that year.

These tables present detailed data on S&E doctorate recipients, with some totals provided for broad non-S&E fields. Detailed data on non-S&E fields are published in the Summary Report and by other Federal sponsors of the Survey of Earned Doctorates. The groupings of field specialties into broad fields may differ among the sponsoring agencies according to their missions.

Approximately 92 percent of the annual cohort of doctorate recipients in 1999 responded to the questionnaire. Over the period 1989-97, the response rate varied between 92 and 95 percent. Note that most of the numbers presented are actual self-reports, as there are no adjustments for nonresponse. For the nonrespondents, partial data from public sources are added to the file for nonrespondents; therefore, complete counts are presented for conferred doctorates by field of study and sex of recipient. Because some tables present data subject to nonresponse, these summaries represent the conservative known responses for any data item. Therefore, small changes in numbers should be interpreted with caution, as numerical trends are affected by fluctuations in response rates and declines and increases may appear greater than they may be in reality.

For further information on the survey methodology or the availability of data on S&E doctorate recipients, please go to <http://www.nsf.gov/sbe/srs/ssed/sedmeth.htm> or contact—

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Table 1. Science and engineering (S&E) doctorates awarded,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Science and engineering, total .....	22,868	24,023	24,675	25,443	26,205	26,535	27,229	27,245	27,309	25,953
Engineering, total .....	4,894	5,214	5,438	5,698	5,822	6,008	6,305	6,114	5,930	5,337
Aeronautical/astronautical engineering .....	192	207	234	228	230	252	287	273	243	207
Chemical engineering, total .....	658	691	725	737	725	708	798	767	775	678
Chemical .....	561	621	607	624	630	602	681	662	668	580
Petroleum .....	49	28	54	52	42	48	52	51	48	45
Polymer/plastics <sup>1</sup> .....	48	42	64	61	53	58	65	54	59	53
Civil engineering, total .....	553	575	594	624	684	656	697	656	651	585
Civil .....	505	509	540	563	602	572	599	593	588	507
Environmental health .....	48	66	54	61	82	84	98	63	63	78
Electrical engineering, total .....	1,276	1,405	1,483	1,543	1,673	1,731	1,740	1,721	1,596	1,477
Communications .....	35	21	30	22	33	29	32	33	40	38
Computer .....	131	178	175	167	202	189	208	227	210	206
Electrical/electronics .....	1,110	1,206	1,278	1,354	1,438	1,513	1,500	1,461	1,346	1,233
Industrial/manufacturing engineering <sup>2</sup> .....	151	165	196	236	228	284	258	246	230	209
Materials/metallurgical engineering, total .....	440	489	485	535	539	588	572	581	565	470
Ceramic sciences <sup>3</sup> .....	43	58	42	42	39	39	41	39	24	33
Materials science .....	307	361	365	416	433	476	470	482	482	394
Metallurgical .....	90	70	78	77	67	73	61	60	59	43
Mechanical engineering, total .....	884	875	987	1,030	1,015	1,025	1,052	1,021	1,023	853
Mechanical .....	773	762	855	902	883	917	947	928	937	785
Engineering mechanics .....	111	113	132	128	132	108	105	93	86	68
Other engineering, total .....	740	807	734	765	728	764	901	849	847	858
Agricultural .....	101	83	84	86	89	73	104	79	74	59
Bioengineering/biomedical .....	129	149	147	171	173	189	220	210	207	245
Engineering physics .....	16	23	25	21	17	17	37	24	15	28
Engineering science .....	37	42	51	55	46	56	52	45	50	51
Mining/mineral .....	39	38	26	24	23	19	31	33	21	18
Naval architecture/marine <sup>4</sup> .....	8	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nuclear .....	114	107	120	108	85	105	113	102	97	77
Ocean .....	17	21	21	24	29	21	26	34	29	16
Operations research .....	46	76	56	56	47	48	74	74	62	67
Systems .....	51	48	37	57	51	47	47	49	68	42
Engineering, general .....	75	78	64	47	39	60	60	51	30	39
Engineering, other .....	107	137	103	116	129	129	137	148	194	216
Sciences, total .....	17,974	18,809	19,237	19,745	20,383	20,527	20,924	21,131	21,379	20,616
Physical sciences, total .....	3,524	3,626	3,781	3,699	3,977	3,841	3,837	3,768	3,829	3,582
Astronomy, total .....	128	125	134	145	144	173	192	198	208	160
Astronomy .....	52	50	55	76	66	89	84	71	91	60
Astrophysics .....	76	75	79	69	78	84	108	127	117	100
Chemistry, total .....	2,100	2,194	2,214	2,137	2,257	2,162	2,148	2,147	2,219	2,134
Analytical .....	293	304	304	286	334	317	346	350	384	333
Inorganic .....	242	260	268	237	262	258	249	279	287	279
Medicinal/pharmaceutical <sup>5</sup> .....	48	83	69	99	102	96	96	105	115	132
Nuclear .....	13	14	7	8	10	5	5	8	6	10
Organic .....	452	538	512	518	544	483	506	566	597	564
Physical .....	325	364	398	336	334	338	300	334	279	310
Polymer .....	81	111	83	107	117	116	121	110	123	95
Theoretical .....	55	45	59	53	52	40	57	48	41	56
Chemistry, general .....	524	400	449	431	447	458	396	261	286	196
Chemistry, other .....	67	75	65	62	55	51	72	86	101	159

See explanatory information, if any, and SOURCE at end of table.

Table 1. Science and engineering (S&E) doctorates awarded,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Physics, total .....	1,265	1,286	1,403	1,399	1,548	1,479	1,484	1,401	1,378	1,271
Acoustics .....	21	13	18	27	20	18	19	19	18	16
Chemical & atomic/ molecular <sup>6</sup> .....	87	76	85	95	140	110	129	106	100	99
Electron <sup>4</sup> .....	2	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Elementary particle .....	163	182	153	170	176	183	175	170	173	169
Fluids .....	17	14	17	19	12	18	21	24	26	23
Nuclear .....	73	66	86	82	90	91	87	106	92	76
Optics .....	76	85	94	96	104	98	129	123	104	97
Plasma & high- temperature <sup>7</sup> .....	42	58	65	62	79	46	48	39	55	49
Polymer .....	11	17	17	29	29	23	33	19	24	28
Solid state & low-temperature <sup>8</sup> .....	306	372	408	336	388	371	364	328	313	308
Physics, general .....	323	247	297	340	343	355	323	255	191	205
Physics, other .....	144	155	163	143	167	166	156	212	282	201
Other physical sciences .....	31	21	30	18	28	27	13	22	24	17
Earth, atmospheric, and ocean sciences, total .....	738	815	794	771	824	780	794	878	814	807
Atmospheric sciences, total .....	83	108	120	99	129	130	125	149	125	124
Atmospheric dynamics .....	20	21	23	23	27	16	21	25	24	16
Atmospheric physics/ chemistry .....	18	20	36	13	27	27	22	45	38	43
Meteorology .....	20	31	28	34	32	25	35	28	25	22
Atmospheric science/ meteorology, general .....	23	26	27	22	37	44	33	36	22	33
Atmospheric science/ meteorology, other .....	2	10	6	7	6	18	14	15	16	10
Geosciences, total <sup>1</sup> .....	477	560	503	479	509	454	452	489	504	453
Applied geology <sup>4</sup> .....	6	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Geology .....	166	192	166	197	194	186	162	165	171	158
Geochemistry .....	56	64	62	50	59	42	49	49	58	55
Geomorphology/glacial geology .....	14	18	12	16	13	11	11	26	20	18
Geophysics/seismology .....	91	117	108	101	106	93	101	108	106	100
Hydrology/water resources .....	13	16	29	25	30	24	31	43	35	32
Mineralogy/petrology .....	26	36	29	9	21	19	23	19	14	14
Paleontology .....	21	24	25	21	17	20	14	23	23	15
Stratigraphy/ sedimentation .....	25	29	23	28	27	16	12	23	24	17
Geological & related sciences, general .....	31	30	18	15	18	21	27	16	13	9
Geological & related sciences, other .....	28	33	31	17	24	22	22	17	40	35
Oceanography, total .....	128	112	114	125	125	115	134	144	112	130
Marine sciences .....	39	27	32	27	34	32	27	30	18	30
Oceanography .....	89	85	82	98	91	83	107	114	94	100
Other environmental sciences .....	50	35	57	68	61	81	83	96	73	100

See explanatory information, if any, and SOURCE at end of table.

Table 1. Science and engineering (S&E) doctorates awarded,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Mathematical/computer sciences, total .....	1,597	1,839	1,927	2,026	2,021	2,187	2,043	2,035	2,102	1,935
Mathematics, total .....	892	1,039	1,058	1,146	1,118	1,190	1,122	1,125	1,177	1,085
Algebra .....	39	72	69	84	78	82	78	78	75	84
Analysis/functional analysis .....	90	132	105	105	107	99	100	103	130	87
Applied mathematics .....	185	193	213	188	206	211	230	242	265	252
Computing theory .....	12	19	12	18	16	14	18	14	18	14
Geometry .....	42	66	45	44	35	45	72	70	54	65
Logic .....	19	23	28	19	29	35	16	23	16	23
Mathematical statistics <sup>9</sup> .....	157	206	217	228	205	205	178	181	204	174
Number theory .....	26	30	25	42	37	35	42	46	46	50
Operations research .....	29	16	22	37	26	36	21	20	17	21
Topology .....	50	57	58	54	38	51	55	62	65	65
Mathematics, general .....	191	180	209	276	269	305	233	155	163	117
Mathematics, other .....	52	45	55	51	72	72	79	131	124	133
Computer sciences, total .....	705	800	869	880	903	997	921	910	925	850
Computer science .....	612	720	791	825	833	913	837	829	819	735
Information science/systems .....	93	80	78	55	70	84	84	81	106	115
Biological/agricultural sciences, total .....	5,502	5,723	5,862	6,060	6,281	6,412	6,760	6,768	6,891	6,565
Biological sciences, total .....	4,328	4,650	4,799	5,092	5,203	5,376	5,723	5,786	5,854	5,600
Bacteriology .....	15	11	13	14	18	13	16	13	13	13
Biochemistry .....	678	765	715	846	804	824	794	831	798	763
Biomedical sciences <sup>10</sup> .....	N/A	N/A	N/A	N/A	N/A	93	140	158	184	177
Biophysics .....	103	100	125	103	123	155	142	147	166	173
Biotechnology research <sup>11</sup> .....	N/A	N/A	N/A	8	14	4	6	11	12	19
Plant genetics .....	31	23	33	41	30	35	41	30	40	31
Plant pathology .....	37	50	32	41	40	32	38	33	18	36
Plant physiology .....	51	65	68	48	70	55	73	47	61	54
Botany, other .....	104	105	107	105	117	102	105	91	113	68
Anatomy .....	70	77	75	76	66	64	47	50	35	33
Biometrics/biostatistics .....	47	59	63	74	72	67	81	84	75	76
Cell biology .....	145	149	188	231	237	236	233	251	299	285
Developmental biology/embryology <sup>12</sup> .....	22	37	48	57	62	64	96	115	127	108
Ecology .....	166	189	180	177	201	203	245	255	293	272
Endocrinology .....	24	33	27	16	26	20	24	17	30	19
Entomology .....	147	138	139	114	123	121	136	124	139	113
Biological immunology <sup>13</sup> .....	153	177	181	169	161	190	238	214	245	223
Microbiology .....	335	372	377	433	423	426	444	410	384	382
Molecular biology .....	413	481	527	582	598	617	651	772	741	719
Neuroscience .....	192	238	238	276	284	309	404	437	413	437
Nutritional sciences .....	118	106	132	134	147	136	142	124	139	104
Parasitology .....	13	20	17	17	22	14	22	17	15	13
Toxicology .....	91	86	105	100	120	126	138	180	156	115
Human/animal genetics .....	153	160	142	172	203	202	212	217	197	217
Human/animal pathology .....	101	122	114	130	128	109	135	106	91	120
Human/animal pharmacology .....	244	266	279	274	259	278	316	300	256	254
Human/animal physiology .....	278	272	266	271	289	262	275	227	258	243
Zoology, other .....	122	125	134	114	117	145	100	97	111	126
Biological sciences, general .....	333	278	315	305	288	348	291	209	217	182
Biological sciences, other .....	142	146	159	164	161	126	138	219	228	225

See explanatory information, if any, and SOURCE at end of table.

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Table 1. Science and engineering (S&E) doctorates awarded,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Agricultural sciences, total .....	1,174	1,073	1,063	968	1,078	1,036	1,037	982	1,037	965
Agronomy & crop science <sup>14</sup> .....	143	117	123	104	143	114	110	77	97	106
Animal breeding/genetics .....	22	18	23	18	17	19	12	24	18	21
Animal nutrition .....	54	57	41	52	58	50	54	55	45	46
Dairy science .....	20	19	14	11	11	14	9	14	10	12
Poultry science .....	17	13	22	16	21	11	12	9	11	8
Animal sciences, other .....	90	92	97	74	86	85	90	62	60	71
Fisheries science & management <sup>15</sup> .....	42	39	26	38	48	49	46	45	30	38
Wildlife/range management <sup>16</sup> .....	58	59	55	54	52	50	64	50	56	44
Food engineering <sup>17</sup> .....	10	12	14	9	16	7	7	11	13	7
Food sciences, other <sup>17</sup> .....	141	137	151	141	153	135	142	175	153	137
Forest biology <sup>18</sup> .....	27	17	29	18	20	24	19	22	20	14
Forest engineering <sup>18</sup> .....	2	2	2	3	N/A	4	0	13	2	1
Forest management <sup>18</sup> .....	14	22	16	17	17	20	22	21	27	17
Wood science & pulp/paper technology <sup>18</sup> .....	16	16	21	20	26	26	18	25	25	21
Conservation/renewable natural resources <sup>18</sup> .....	16	19	9	13	21	24	13	17	25	25
Forestry & related sciences, other <sup>18</sup> .....	62	45	62	55	59	71	56	50	69	49
Horticulture science .....	101	78	65	62	65	67	73	44	60	66
Plant breeding/genetics .....	87	69	82	68	81	72	63	67	69	44
Plant pathology .....	64	90	63	58	55	52	90	65	66	66
Plant protection/pest management <sup>19</sup> .....	4	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Plant sciences, other .....	23	17	29	28	24	30	21	20	37	38
Soil chemistry/ microbiology <sup>20</sup> .....	27	24	24	26	21	27	29	32	27	29
Soil sciences, other <sup>20</sup> .....	91	78	63	59	69	72	78	56	74	67
Agricultural sciences, general .....	5	3	9	10	4	6	5	10	8	8
Agricultural sciences, other .....	38	28	23	14	11	7	4	18	35	30

See explanatory information, if any, and SOURCE at end of table.

Table 1. Science and engineering (S&E) doctorates awarded,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Psychology, total .....	3,281	3,250	3,263	3,420	3,379	3,429	3,491	3,571	3,685	3,667
Clinical .....	1,337	1,305	1,309	1,373	1,285	1,291	1,325	1,268	1,350	1,449
Cognitive psychology & psycholinguistics <sup>21</sup> .....	76	94	101	104	129	104	128	166	113	143
Comparative .....	8	7	2	5	8	4	3	6	6	11
Counseling .....	466	497	507	488	497	470	464	487	448	461
Developmental & child <sup>22</sup> .....	159	155	170	202	179	152	188	215	267	193
Educational .....	98	110	91	91	69	74	92	61	61	66
Experimental .....	143	142	154	143	139	151	128	145	149	137
Family & marriage counseling <sup>10</sup> .....	N/A	N/A	N/A	N/A	N/A	57	52	64	51	55
Human/individual & family development <sup>23</sup> .....	N/A	N/A	N/A	N/A	129	150	151	126	118	130
Industrial/organizational .....	126	142	138	159	137	155	162	187	189	158
Physiological/ psychobiology <sup>24</sup> .....	46	45	55	85	93	92	80	77	92	87
Quantitative .....	15	7	10	16	17	13	19	17	15	14
Personality .....	20	13	17	22	19	16	24	26	25	16
Psychometrics .....	8	9	5	9	5	10	11	11	9	15
School .....	82	82	88	95	84	91	82	84	106	120
Social .....	145	147	139	125	153	155	170	181	186	175
Psychology, general .....	371	324	295	306	280	306	279	321	304	229
Psychology, other .....	181	171	182	197	285	288	284	131	196	208
Social sciences, total .....	3,332	3,556	3,610	3,769	3,901	3,878	3,999	4,111	4,058	4,060
Economics, total .....	1,007	1,053	1,051	1,067	1,101	1,152	1,177	1,163	1,155	1,076
Agricultural economics .....	145	168	141	137	162	173	169	133	155	149
Econometrics .....	26	24	25	24	26	27	29	31	25	15
Economics .....	836	861	885	906	913	952	979	999	975	912
Political science, total .....	734	740	804	824	930	894	928	974	962	1,016
International relations & affairs <sup>25</sup> .....	97	88	76	102	112	73	99	88	97	120
Political science/ government .....	462	434	513	507	589	600	621	665	663	653
Public administration .....	88	107	108	117	135	128	104	95	105	119
Public policy analysis <sup>26</sup> .....	87	111	107	98	94	93	104	126	97	124
Sociology, total .....	448	493	512	535	548	555	527	601	581	571
Demography/population studies <sup>27</sup> .....	20	28	17	22	23	15	11	24	31	28
Sociology .....	428	465	495	513	525	540	516	577	550	543
Other social sciences, total .....	1,143	1,270	1,243	1,343	1,322	1,277	1,367	1,373	1,360	1,397
American studies .....	72	92	81	101	88	94	115	84	100	98
Anthropology .....	324	341	320	342	384	375	396	434	425	461
Archaeology .....	22	33	33	38	34	35	21	35	34	26
Area studies .....	22	24	33	36	34	27	28	10	14	11
Criminology .....	42	35	37	39	41	44	60	49	55	51
Geography .....	131	108	111	137	146	150	165	149	154	144
History/philosophy of science & technology <sup>28</sup> .....	26	27	28	37	27	41	37	36	43	49
Linguistics .....	167	227	266	214	221	201	230	244	220	250
Statistics .....	69	31	29	48	46	48	48	58	61	72
Urban affairs & studies <sup>29</sup> .....	67	90	86	123	132	103	106	93	77	57
Social sciences, general .....	23	36	33	32	21	35	26	26	30	25
Social sciences, other .....	178	226	186	196	148	124	135	157	147	153

See explanatory information, if any, and SOURCE at end of table.

**Table 1. Science and engineering (S&E) doctorates awarded,  
by field of study and year of doctorate: 1990-1999**

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-S&E, total <sup>30</sup>	13,199	13,511	14,215	14,358	14,829	15,208	15,185	15,310	15,374	15,187
Health	956	1,041	1,112	1,197	1,296	1,330	1,324	1,423	1,503	1,410
Humanities <sup>31</sup>	3,535	3,720	4,036	4,092	4,374	4,690	4,713	5,037	5,114	5,045
Education	6,510	6,454	6,677	6,689	6,708	6,649	6,772	6,573	6,575	6,557
Professional/other	2,198	2,296	2,390	2,380	2,451	2,539	2,376	2,277	2,182	2,175
Grand total, all fields	36,067	37,534	38,890	39,801	41,034	41,743	42,414	42,555	42,683	41,140

- 1 In 1993 this subfield was changed from "Polymer engineering" to "Polymer and plastics engineering."
- 2 In 1993 this subfield was changed from "Industrial engineering" to "Industrial and manufacturing engineering."
- 3 In 1993 this subfield was changed from "Ceramic engineering" to "Ceramic sciences engineering."
- 4 These subfields were deleted in 1991: "Naval architecture/marine engineering," "Electron physics," and "Applied geology."
- 5 In 1993 this subfield was changed from "Pharmaceutical chemistry" to "Medicinal and pharmaceutical chemistry."
- 6 In 1993 this subfield was changed from "Atomic/molecular physics" to "Chemical and atomic/molecular physics."
- 7 In 1993 this subfield was changed from "Plasma physics" to "Plasma and high-temperature physics."
- 8 In 1993 this subfield was changed from "Solid state physics" to "Solid state and low-temperature physics."
- 9 In 1993 this subfield was changed from "Math probability and statistics" to "Mathematical statistics."
- 10 These subfields were introduced in 1995: "Biomedical sciences" and "Family and marriage counseling."
- 11 "Biotechnology research" was introduced in 1993.
- 12 In 1990 this subfield was changed from "Embryology" to "Developmental biology/embryology."
- 13 In 1993 this subfield was changed from "Immunology" to "Biological immunology."
- 14 In 1993 this subfield was changed from "Agronomy" to "Agronomy and crop science."
- 15 In 1993 this subfield was changed from "Fisheries science" to "Fisheries science and management."
- 16 In 1988 this subfield was changed from "Wildlife management" to "Wildlife/range management."
- 17 In 1990 "Food sciences" was separated into "Food engineering" and "Food sciences, other."
- 18 In 1988 "Forestry science" was separated into "Forest biology," "Forest engineering," "Forest management," "Wood science," "Renewable natural resources," and "Forestry and related sciences, other." In 1993 "Pulp and paper technology" was added to "Wood science," and "Conservation" was added to "Renewable natural resources." "Forest engineering" was deleted from the survey in 1994 and reintroduced in 1995.
- 19 "Plant protection/pest management" was deleted in 1991.
- 20 In 1988 "Soil sciences" was separated into "Soil chemistry/microbiology" and "Soil sciences, other."
- 21 In 1993 this subfield was changed from "Cognitive psychology" to "Cognitive psychology and psycholinguistics."
- 22 In 1993 this subfield was changed from "Developmental psychology" to "Developmental and child psychology."
- 23 "Human/individual & family development" was introduced in 1994.
- 24 In 1993 this subfield was changed from "Physiological psychology" to "Physiological psychology/psychobiology."
- 25 In 1993 this subfield was changed from "International relations" to "International relations and affairs."
- 26 In 1993 this subfield was changed from "Public policy studies" to "Public policy analysis."
- 27 In 1993 this subfield was changed from "Demography" to "Demography and population studies."
- 28 In 1993 this subfield was changed from "History of science" to "History and philosophy of science and technology."
- 29 In 1993 this subfield was changed from "Urban studies" to "Urban affairs and studies."
- 30 Non-S&E doctorates include those whose field of specialization is unknown.
- 31 Categories differ from those published by other Federal sponsors and the Summary Reports in that linguistics, history of science, American studies, and archaeology are included not in humanities but in social science.

**KEY:** N/A = Not available (i.e., the subfield was not identified separately in the questionnaire for that year)

**SOURCE:** National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates

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Table 2. Science and engineering (S&E) doctorates awarded to women,  
by field of study and year of doctorate: 1990-1999

Page 1 of 6

Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent women	
											1990	1999
Science and engineering, total .....	6,370	6,932	7,080	7,652	7,921	8,286	8,646	8,943	9,355	9,084	27.9	35.0
Engineering, total .....	415	467	506	522	635	696	776	751	773	791	8.5	14.8
Aeronautical/astronautical engineering .....	4	7	8	8	11	14	24	16	15	17	2.1	8.2
Chemical engineering, total .....	78	83	113	94	113	109	143	122	140	124	11.9	18.3
Chemical .....	71	75	101	83	101	96	126	106	119	102	12.7	17.6
Petroleum .....	0	1	3	5	3	1	3	3	6	5	.0	11.1
Polymer/plastics <sup>1</sup> .....	7	7	9	6	9	12	14	13	15	17	14.6	32.1
Civil engineering, total .....	49	41	50	54	80	76	79	80	100	89	8.9	15.2
Civil .....	39	31	36	45	56	55	64	70	83	76	7.7	15.0
Environmental health .....	10	10	14	9	24	21	15	10	17	13	20.8	16.7
Electrical engineering, total .....	84	79	115	125	147	173	169	150	156	156	6.6	10.6
Communications .....	2	2	1	2	5	5	2	3	6	6	5.7	15.8
Computer .....	11	9	13	15	25	18	23	21	22	33	8.4	16.0
Electrical/electronics .....	71	68	101	108	117	150	144	126	128	117	6.4	9.5
Industrial/manufacturing engineering <sup>2</sup> .....	25	17	25	27	33	50	51	40	40	43	16.6	20.6
Materials/metallurgical engineering, total .....	49	77	61	78	83	95	83	106	84	88	11.1	18.7
Ceramic sciences <sup>3</sup> .....	11	10	9	6	9	5	3	8	2	9	25.6	27.3
Materials science .....	31	59	50	67	69	84	71	96	75	75	10.1	19.0
Metallurgical .....	7	8	2	5	5	6	9	2	7	4	7.8	9.3
Mechanical engineering, total .....	38	57	45	57	69	64	78	88	93	95	4.3	11.1
Mechanical .....	29	50	33	46	60	56	68	82	80	84	3.8	10.7
Engineering mechanics .....	9	7	12	11	9	8	10	6	13	11	8.1	16.2
Other engineering, total .....	88	106	89	79	99	115	149	149	145	179	11.9	20.9
Agricultural .....	7	8	6	6	10	7	17	12	5	12	6.9	20.3
Bioengineering/biomedical .....	23	27	33	31	45	48	49	54	50	63	17.8	25.7
Engineering physics .....	1	2	2	3	3	1	3	4	3	4	6.3	14.3
Engineering science .....	6	3	6	3	3	6	4	7	8	4	16.2	7.8
Mining/mineral .....	2	6	3	1	3	0	3	3	4	2	5.1	11.1
Naval architecture/marine <sup>4</sup> .....	1	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.5	-
Nuclear .....	9	6	9	5	8	9	9	8	10	8	7.9	10.4
Ocean .....	2	1	0	1	2	3	3	5	0	1	11.8	6.3
Operations research .....	6	22	11	10	7	8	16	15	15	16	13.0	23.9
Systems .....	3	4	3	4	5	5	9	10	9	7	5.9	16.7
Engineering, general .....	10	7	3	3	4	9	11	3	3	4	13.3	10.3
Engineering, other .....	18	20	13	12	9	19	25	28	38	58	16.8	26.9
Sciences, total .....	5,955	6,465	6,574	7,130	7,286	7,590	7,870	8,192	8,582	8,293	33.1	40.2
Physical sciences, total .....	661	679	770	780	828	878	842	852	927	831	18.8	23.2
Astronomy, total .....	20	14	19	25	25	30	41	37	46	32	15.6	20.0
Astronomy .....	13	7	11	12	9	18	21	18	22	17	25.0	28.3
Astrophysics .....	7	7	8	13	16	12	20	19	24	15	9.2	15.0
Chemistry, total .....	503	517	579	582	625	661	605	613	695	633	24.0	29.7
Analytical .....	68	83	95	91	102	109	111	106	146	108	23.2	32.4
Inorganic .....	60	73	69	59	87	92	68	81	84	90	24.8	32.3
Medicinal/ pharmaceutical <sup>5</sup> .....	20	27	27	38	26	32	32	43	46	51	41.7	38.6
Nuclear .....	2	4	1	0	0	3	0	0	1	1	15.4	10.0
Organic .....	104	108	119	131	128	134	118	145	160	163	23.0	28.9
Physical .....	76	86	109	88	93	93	85	91	77	75	23.4	24.2
Polymer .....	13	24	12	22	23	28	30	25	40	31	16.0	32.6
Theoretical .....	14	7	16	16	17	10	14	11	10	9	25.5	16.1
Chemistry, general .....	128	76	107	112	126	135	119	76	88	52	24.4	26.5
Chemistry, other .....	18	29	24	25	23	25	28	35	43	53	26.9	33.3

See explanatory information, if any, and SOURCE at end of table.



Table 2. Science and engineering (S&E) doctorates awarded to women,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent women	
											1990	1999
Physics, total .....	130	142	167	169	175	182	193	193	177	160	10.3	12.6
Acoustics .....	2	2	0	1	2	3	2	4	6	1	9.5	6.3
Chemical & atomic/ molecular <sup>6</sup> .....	7	4	6	14	17	15	10	11	13	14	8.0	14.1
Electron <sup>4</sup> .....	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	.0	-
Elementary particle .....	14	20	12	18	16	7	19	21	11	17	8.6	10.1
Fluids .....	1	0	1	2	1	0	4	0	0	2	5.9	8.7
Nuclear .....	5	7	12	8	9	12	9	11	11	9	6.8	11.8
Optics .....	5	13	9	14	14	13	20	16	18	12	6.6	12.4
Plasma & high- temperature <sup>7</sup> .....	2	2	4	4	8	5	2	2	2	2	4.8	4.1
Polymer .....	3	3	1	5	4	3	12	7	4	7	27.3	25.0
Solid state & low-temperature <sup>8</sup> .....	35	42	53	42	53	57	54	51	37	42	11.4	13.6
Physics, general .....	33	31	42	46	30	41	39	36	29	23	10.2	11.2
Physics, other .....	23	18	27	15	21	26	22	34	46	31	16.0	15.4
Other physical sciences .....	8	6	5	4	3	5	3	9	9	6	25.8	35.3
Earth, atmospheric, and ocean sciences, total .....	141	179	188	160	183	170	172	210	219	210	19.1	26.0
Atmospheric sciences, total .....	14	16	27	18	26	23	22	25	30	22	16.9	17.7
Atmospheric dynamics .....	4	3	4	5	9	3	4	5	8	4	20.0	25.0
Atmospheric physics/ chemistry .....	1	2	5	2	5	8	7	10	7	11	5.6	25.6
Meteorology .....	3	7	10	3	8	3	2	3	5	1	15.0	4.5
Atmospheric science/ meteorology, general .....	5	3	7	7	4	7	5	5	8	3	21.7	9.1
Atmospheric science/ meteorology, other .....	1	1	1	1	0	2	4	2	2	3	50.0	30.0
Geosciences, total .....	85	124	115	89	95	91	88	119	127	112	17.8	24.7
Applied geology <sup>4</sup> .....	3	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.0	-
Geology .....	32	34	35	35	32	38	36	39	40	41	19.3	25.9
Geochemistry .....	9	19	16	13	10	10	10	15	22	21	16.1	38.2
Geomorphology/glacial geology .....	1	2	5	3	2	4	1	4	8	9	7.1	50.0
Geophysics/seismology .....	15	20	23	14	24	19	14	19	21	15	16.5	15.0
Hydrology/water resources .....	1	2	7	9	3	4	5	8	8	5	7.7	15.6
Mineralogy/petrology .....	4	15	6	1	6	4	11	6	5	3	15.4	21.4
Paleontology .....	2	7	2	5	2	3	4	11	7	4	9.5	26.7
Stratigraphy/ sedimentation .....	5	8	10	5	4	1	3	7	4	3	20.0	17.6
Geological & related sciences, general .....	5	9	4	2	1	4	2	4	5	1	16.1	11.1
Geological & related sciences, other .....	8	8	7	2	11	4	2	6	7	10	28.6	28.6
Oceanography, total .....	31	26	29	35	38	28	39	38	32	45	24.2	34.6
Marine sciences .....	7	2	11	8	11	8	5	8	3	9	17.9	30.0
Oceanography .....	24	24	18	27	27	20	34	30	29	36	27.0	36.0
Other environmental sciences .....	11	13	17	18	24	28	23	28	30	31	22.0	31.0

See explanatory information, if any, and SOURCE at end of table.



Table 2. Science and engineering (S&E) doctorates awarded to women,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent women	
											1990	1999
Mathematical/computer sciences, total .....	268	316	325	402	373	451	370	413	456	433	16.8	22.4
Mathematics, total .....	158	199	205	264	236	265	231	263	297	277	17.7	25.5
Algebra .....	6	16	13	28	24	24	18	20	18	25	15.4	29.8
Analysis/functional analysis .....	15	21	18	23	16	18	15	13	25	19	16.7	21.8
Applied mathematics .....	34	27	44	43	39	47	52	55	61	59	18.4	23.4
Computing theory .....	1	3	0	3	2	2	2	1	3	3	8.3	21.4
Geometry .....	8	5	6	7	4	8	14	13	15	16	19.0	24.6
Logic .....	3	1	2	4	6	7	1	5	5	5	15.8	21.7
Mathematical statistics <sup>9</sup> .....	31	56	46	57	50	54	47	46	62	46	19.7	26.4
Number theory .....	1	8	4	4	5	9	7	11	7	12	3.8	24.0
Operations research .....	2	4	6	9	9	5	4	5	6	9	6.9	42.9
Topology .....	11	18	16	9	11	8	5	14	13	15	22.0	23.1
Mathematics, general .....	32	31	37	56	54	64	45	44	39	22	16.8	18.8
Mathematics, other .....	14	9	13	21	16	19	21	36	43	46	26.9	34.6
Computer sciences, total .....	110	117	120	138	137	186	139	150	159	156	15.6	18.4
Computer science .....	85	96	91	123	118	160	116	132	120	119	13.9	16.2
Information science/systems .....	25	21	29	15	19	26	23	18	39	37	26.9	32.2
Biological/agricultural sciences, total .....	1,861	1,982	2,064	2,278	2,358	2,445	2,697	2,754	2,836	2,680	33.8	40.8
Biological sciences, total .....	1,615	1,773	1,831	2,050	2,109	2,217	2,415	2,494	2,538	2,400	37.3	42.9
Bacteriology .....	4	5	5	6	11	6	8	1	4	6	26.7	46.2
Biochemistry .....	237	289	284	318	320	341	317	364	349	310	35.0	40.6
Biomedical sciences <sup>10</sup> .....	N/A	N/A	N/A	N/A	N/A	42	54	63	81	72	-	40.7
Biophysics .....	23	26	33	21	33	46	41	41	47	49	22.3	28.3
Biotechnology research <sup>11</sup> .....	N/A	N/A	N/A	4	2	2	1	3	4	2	-	10.5
Plant genetics .....	7	5	8	12	5	12	16	11	18	9	22.6	29.0
Plant pathology .....	12	13	10	15	11	10	13	8	8	12	32.4	33.3
Plant physiology .....	19	19	16	19	21	21	29	18	28	23	37.3	42.6
Botany, other .....	33	39	45	43	46	34	44	31	55	26	31.7	38.2
Anatomy .....	29	31	31	34	29	25	20	19	8	16	41.4	48.5
Biometrics/biostatistics .....	18	29	24	21	34	23	34	43	39	36	38.3	47.4
Cell biology .....	69	63	80	116	102	117	107	113	154	136	47.6	47.7
Developmental biology/embryology <sup>12</sup> .....	12	20	22	25	32	29	49	61	61	54	54.5	50.0
Ecology .....	52	60	65	67	70	64	84	108	114	121	31.3	44.5
Endocrinology .....	11	16	12	12	8	6	13	9	14	9	45.8	47.4
Entomology .....	26	35	35	28	28	27	36	42	38	36	17.7	31.9
Biological immunology <sup>13</sup> .....	72	76	83	73	74	82	129	93	115	100	47.1	44.8
Microbiology .....	116	150	157	183	177	188	185	185	169	163	34.6	42.7
Molecular biology .....	152	182	194	237	268	265	291	330	324	299	36.8	41.6
Neuroscience .....	76	88	92	110	129	121	165	190	169	183	39.6	41.9
Nutritional sciences .....	88	70	95	99	102	92	98	92	96	69	74.6	66.3
Parasitology .....	4	7	8	7	9	7	12	10	6	6	30.8	46.2
Toxicology .....	36	30	33	43	50	50	60	80	61	53	39.6	46.1
Human/animal genetics .....	73	71	61	76	87	92	101	103	91	106	47.7	48.8
Human/animal pathology .....	32	46	41	45	45	38	52	42	35	54	31.7	45.0
Human/animal pharmacology .....	92	91	92	121	106	129	142	143	121	113	37.7	44.5
Human/animal physiology .....	98	107	82	100	106	103	107	82	100	108	35.3	44.4
Zoology, other .....	37	39	45	32	32	50	31	34	43	47	30.3	37.3
Biological sciences, general .....	140	113	115	113	117	148	120	86	82	75	42.0	41.2
Biological sciences, other .....	47	53	63	70	55	47	56	89	104	107	33.1	47.6

See explanatory information, if any, and SOURCE at end of table.

Table 2. Science and engineering (S&E) doctorates awarded to women,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent women	
											1990	1999
Agricultural sciences, total .....	246	209	233	228	249	228	282	260	298	280	21.0	29.0
Agronomy & crop science <sup>14</sup> .....	21	11	23	19	17	13	17	10	18	16	14.7	15.1
Animal breeding/genetics .....	3	2	6	4	3	1	3	4	6	7	13.6	33.3
Animal nutrition .....	13	10	8	7	10	9	11	13	13	12	24.1	26.1
Dairy science .....	2	4	2	2	1	3	2	5	2	5	10.0	41.7
Poultry science .....	3	1	6	6	5	0	3	2	3	2	17.6	25.0
Animal sciences, other .....	11	20	21	19	25	19	26	14	16	23	12.2	32.4
Fisheries science & management <sup>15</sup> .....	6	4	1	4	11	9	10	5	8	7	14.3	18.4
Wildlife/range management <sup>16</sup> .....	6	8	7	17	13	8	22	13	15	8	10.3	18.2
Food engineering <sup>17</sup> .....	2	2	2	2	2	0	0	3	3	2	20.0	28.6
Food sciences, other <sup>17</sup> .....	54	46	60	57	69	54	69	79	66	67	38.3	48.9
Forest biology <sup>18</sup> .....	8	3	8	7	6	5	4	1	6	4	29.6	28.6
Forest engineering <sup>18</sup> .....	0	1	0	0	N/A	0	0	2	0	0	.0	.0
Forest management <sup>18</sup> .....	1	4	1	0	2	6	2	4	9	3	7.1	17.6
Wood science & pulp/paper technology <sup>18</sup> .....	0	2	2	3	6	6	3	2	4	6	.0	28.6
Conservation/renewable natural resources <sup>18</sup> .....	3	3	1	4	6	5	3	7	11	9	18.8	36.0
Forestry & related sciences, other <sup>18</sup> .....	10	5	9	9	6	13	18	15	16	16	16.1	32.7
Horticulture science .....	27	19	16	15	14	22	22	16	13	16	26.7	24.2
Plant breeding/genetics .....	20	10	12	14	13	15	13	9	14	13	23.0	29.5
Plant pathology .....	25	26	20	15	20	9	27	26	24	27	39.1	40.9
Plant protection/pest management <sup>19</sup> .....	1	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25.0	-
Plant sciences, other .....	4	4	6	9	9	3	3	7	14	12	17.4	31.6
Soil chemistry/ microbiology <sup>20</sup> .....	6	6	3	5	4	5	9	9	7	8	22.2	27.6
Soil sciences, other <sup>20</sup> .....	8	11	12	4	6	18	14	8	21	11	8.8	16.4
Agricultural sciences, general .....	0	1	2	2	0	3	0	2	1	0	.0	.0
Agricultural sciences, other .....	12	6	5	4	1	2	1	4	8	6	31.6	20.0

See explanatory information, if any, and SOURCE at end of table.

Table 2. Science and engineering (S&E) doctorates awarded to women,  
by field of study and year of doctorate: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent women	
											1990	1999
Psychology, total .....	1,913	1,996	1,928	2,088	2,101	2,180	2,328	2,372	2,460	2,447	58.3	66.7
Clinical .....	785	848	810	873	842	870	919	902	969	1,040	58.7	71.8
Cognitive psychology & psycholinguistics <sup>21</sup> .....	35	46	47	48	56	52	60	75	50	70	46.1	49.0
Comparative .....	3	5	2	3	7	1	2	3	4	7	37.5	63.6
Counseling .....	281	306	289	284	310	297	303	313	295	296	60.3	64.2
Developmental & child <sup>22</sup> .....	112	119	131	155	132	121	154	170	207	149	70.4	77.2
Educational .....	69	64	69	67	39	53	66	45	39	45	70.4	68.2
Experimental .....	49	64	73	68	71	83	68	70	65	64	34.3	46.7
Family & marriage counseling <sup>10</sup> .....	N/A	N/A	N/A	N/A	N/A	37	28	43	28	38	-	69.1
Human/individual & family development <sup>23</sup> .....	N/A	N/A	N/A	N/A	103	118	121	101	90	107	-	82.3
Industrial/organizational .....	53	76	64	73	69	89	99	103	110	99	42.1	62.7
Physiological/psychobiology <sup>24</sup> .....	28	21	25	50	52	35	41	42	49	50	60.9	57.5
Quantitative .....	3	2	5	11	8	9	7	10	8	7	20.0	50.0
Personality .....	10	4	8	12	12	9	11	13	15	11	50.0	68.8
Psychometrics .....	4	3	2	2	1	4	3	7	5	2	50.0	13.3
School .....	53	57	59	65	53	62	71	66	81	88	64.6	73.3
Social .....	92	86	78	67	100	84	111	116	117	114	63.4	65.1
Psychology, general .....	233	185	168	185	158	185	180	201	204	125	62.8	54.6
Psychology, other .....	103	110	98	125	191	189	205	94	124	135	56.9	64.9
Social sciences, total .....	1,111	1,313	1,299	1,422	1,443	1,466	1,461	1,591	1,684	1,692	33.3	41.7
Economics, total .....	200	217	219	246	249	279	263	266	311	291	19.9	27.0
Agricultural economics .....	27	38	28	31	20	42	37	34	40	39	18.6	26.2
Econometrics .....	3	5	2	7	4	4	8	4	4	5	11.5	33.3
Economics .....	170	174	189	208	225	233	218	228	267	247	20.3	27.1
Political science, total .....	170	211	235	246	282	266	305	297	365	356	23.2	35.0
International relations & affairs <sup>25</sup> .....	15	24	24	28	24	21	32	19	33	38	15.5	31.7
Political science/ government .....	108	117	142	129	173	167	186	197	243	215	23.4	32.9
Public administration .....	22	32	30	41	47	43	37	30	48	48	25.0	40.3
Public policy analysis <sup>26</sup> .....	25	38	39	48	38	35	50	51	41	55	28.7	44.4
Sociology, total .....	218	246	250	255	283	294	276	334	318	341	48.7	59.7
Demography/population studies <sup>27</sup> .....	11	16	5	12	12	6	2	16	13	17	55.0	60.7
Sociology .....	207	230	245	243	271	288	274	318	305	324	48.4	59.7
Other social sciences, total .....	523	639	595	675	629	627	617	694	690	704	45.8	50.4
American studies .....	37	56	47	57	48	53	67	47	52	56	51.4	57.1
Anthropology .....	173	210	155	213	208	219	214	241	239	261	53.4	56.6
Archaeology .....	12	20	17	18	17	18	11	20	23	12	54.5	46.2
Area studies .....	9	5	11	11	17	12	9	5	11	3	40.9	27.3
Criminology .....	16	18	15	15	12	23	25	25	22	20	38.1	39.2
Geography .....	35	33	29	40	35	43	45	54	49	49	26.7	34.0
History/philosophy of science & technology <sup>28</sup> .....	9	11	8	16	10	17	10	13	19	18	34.6	36.7
Linguistics .....	90	112	133	118	134	102	113	135	123	147	53.9	58.8
Statistics .....	12	10	11	14	16	11	7	23	21	21	17.4	29.2
Urban affairs & studies <sup>29</sup> .....	21	22	31	44	43	37	38	29	26	17	31.3	29.8
Social sciences, general .....	9	17	20	13	9	23	15	14	17	14	39.1	56.0
Social sciences, other .....	100	125	118	116	80	69	63	88	88	86	56.2	56.2

See explanatory information, if any, and SOURCE at end of table.

**Table 2. Science and engineering (S&E) doctorates awarded to women,  
by field of study and year of doctorate: 1990-1999**

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent women	
											1990	1999
Non-S&E, total <sup>30</sup>	6,736	6,941	7,356	7,470	7,899	8,128	8,298	8,308	8,503	8,409	51.0	55.4
Health	592	668	710	777	843	843	860	937	1,008	901	61.9	63.9
Humanities <sup>31</sup>	1,600	1,720	1,858	1,919	2,054	2,256	2,343	2,382	2,467	2,425	45.3	48.1
Education	3,752	3,748	3,976	3,921	4,089	4,092	4,179	4,120	4,132	4,196	57.6	64.0
Professional/other	792	805	812	853	913	937	916	869	896	887	36.0	40.8
Grand total, all fields	13,106	13,873	14,436	15,122	15,820	16,414	16,944	17,251	17,858	17,493	36.3	42.5

- 1 In 1993 this subfield was changed from "Polymer engineering" to "Polymer and plastics engineering."
- 2 In 1993 this subfield was changed from "Industrial engineering" to "Industrial and manufacturing engineering."
- 3 In 1993 this subfield was changed from "Ceramic engineering" to "Ceramic sciences engineering."
- 4 These subfields were deleted in 1991: "Naval architecture/marine engineering," "Electron physics," and "Applied geology."
- 5 In 1993 this subfield was changed from "Pharmaceutical chemistry" to "Medicinal and pharmaceutical chemistry."
- 6 In 1993 this subfield was changed from "Atomic/molecular physics" to "Chemical and atomic/molecular physics."
- 7 In 1993 this subfield was changed from "Plasma physics" to "Plasma and high-temperature physics."
- 8 In 1993 this subfield was changed from "Solid state physics" to "Solid state and low-temperature physics."
- 9 In 1993 this subfield was changed from "Math probability and statistics" to "Mathematical statistics."
- 10 These subfields were introduced in 1995: "Biomedical sciences" and "Family and marriage counseling."
- 11 "Biotechnology research" was introduced in 1993.
- 12 In 1990 this subfield was changed from "Embryology" to "Developmental biology/embryology."
- 13 In 1993 this subfield was changed from "Immunology" to "Biological immunology."
- 14 In 1993 this subfield was changed from "Agronomy" to "Agronomy and crop science."
- 15 In 1993 this subfield was changed from "Fisheries science" to "Fisheries science and management."
- 16 In 1988 this subfield was changed from "Wildlife management" to "Wildlife/range management."
- 17 In 1990 "Food sciences" was separated into "Food engineering" and "Food sciences, other."
- 18 In 1988 "Forestry science" was separated into "Forest biology," "Forest engineering," "Forest management," "Wood science," "Renewable natural resources," and "Forestry and related sciences, other." In 1993 "Pulp and paper technology" was added to "Wood science," and "Conservation" was added to "Renewable natural resources." "Forest engineering" was deleted from the survey in 1994 and reintroduced in 1995.
- 19 "Plant protection/pest management" was deleted in 1991.
- 20 In 1988 "Soil sciences" was separated into "Soil chemistry/microbiology" and "Soil sciences, other."
- 21 In 1993 this subfield was changed from "Cognitive psychology" to "Cognitive psychology and psycholinguistics."
- 22 In 1993 this subfield was changed from "Developmental psychology" to "Developmental and child psychology."
- 23 "Human/individual & family development" was introduced in 1994.
- 24 In 1993 this subfield was changed from "Physiological psychology" to "Physiological psychology/psychobiology."
- 25 In 1993 this subfield was changed from "International relations" to "International relations and affairs."
- 26 In 1993 this subfield was changed from "Public policy studies" to "Public policy analysis."
- 27 In 1993 this subfield was changed from "Demography" to "Demography and population studies."
- 28 In 1993 this subfield was changed from "History of science" to "History and philosophy of science and technology."
- 29 In 1993 this subfield was changed from "Urban studies" to "Urban affairs and studies."
- 30 Non-S&E doctorates include those whose field of specialization is unknown.
- 31 Categories differ from those published by other Federal sponsors and the Summary Reports in that linguistics, history of science, American studies, and archaeology are included not in humanities but in social science.

**KEY:** - = Percent not available as data were not collected that year.  
N/A = Not available (i.e., the subfield was not identified separately in the questionnaire for that year)

**SOURCE:** National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents										
Science and engineering, total .....	15,364	15,914	15,942	16,573	18,187	18,996	18,639	18,402	18,268	17,428
Engineering, total .....	2,346	2,474	2,520	2,697	3,053	3,342	3,387	3,329	3,045	2,873
Chemical .....	392	399	378	377	380	381	391	409	373	374
Civil .....	241	213	215	227	292	309	305	327	297	310
Electrical .....	599	686	719	795	899	971	928	938	804	762
Mechanical .....	368	359	426	434	538	563	588	537	516	460
Other engineering .....	746	817	782	864	944	1,118	1,175	1,118	1,055	967
Sciences, total .....	13,018	13,440	13,422	13,876	15,134	15,654	15,252	15,073	15,223	14,555
Physical sciences, total .....	2,341	2,300	2,357	2,330	2,789	2,841	2,569	2,497	2,455	2,263
Astronomy .....	96	86	106	111	112	141	149	158	148	116
Chemistry .....	1,497	1,461	1,441	1,400	1,616	1,624	1,462	1,439	1,466	1,400
Physics .....	725	739	790	806	1,044	1,059	948	883	823	735
Other physical sciences .....	23	14	20	13	17	17	10	17	18	12
Earth, atmospheric, & ocean sciences .....	535	618	541	504	613	594	558	606	562	521
Mathematics .....	422	518	507	590	657	771	648	630	669	605
Computer sciences .....	403	451	489	509	543	616	514	521	558	483
Biological sciences .....	3,380	3,525	3,568	3,752	4,088	4,329	4,365	4,254	4,313	4,118
Agricultural sciences .....	687	620	573	506	616	598	576	551	543	491
Psychology .....	2,992	3,018	2,986	3,161	3,136	3,184	3,228	3,138	3,281	3,230
Social sciences .....	2,258	2,390	2,401	2,524	2,692	2,721	2,794	2,876	2,842	2,844
Non-S&E, total .....	11,239	11,516	12,048	12,135	12,707	13,062	12,879	12,684	12,898	12,494
Health .....	756	839	855	939	1,050	1,044	1,016	1,028	1,155	1,043
Humanities <sup>1</sup> .....	3,082	3,194	3,440	3,512	3,766	4,055	4,045	4,235	4,325	4,277
Education .....	5,787	5,788	6,017	5,968	6,063	5,995	6,062	5,744	5,741	5,609
Professional/other .....	1,614	1,695	1,736	1,716	1,828	1,968	1,756	1,677	1,677	1,565
Grand total, all fields .....	26,603	27,430	27,990	28,708	30,894	32,058	31,518	31,086	31,166	29,922
U.S. citizens and permanent residents, American Indian/Alaskan Native										
Science and engineering, total .....	43	56	69	43	64	68	97	79	96	117
Engineering, total .....	4	6	11	2	6	9	15	17	13	12
Chemical .....	0	1	1	1	1	2	1	4	3	2
Civil .....	2	1	1	0	0	0	2	2	0	2
Electrical .....	0	2	4	0	1	1	2	5	3	1
Mechanical .....	0	1	1	0	0	2	4	6	2	2
Other engineering .....	2	1	4	1	4	4	6	0	5	5
Sciences, total .....	39	50	58	41	58	59	82	62	83	105
Physical sciences, total .....	3	10	12	5	6	7	6	10	10	10
Astronomy .....	0	0	0	1	0	0	0	1	1	2
Chemistry .....	3	9	6	2	4	5	4	6	7	5
Physics .....	0	1	6	2	2	2	2	2	2	3
Other physical sciences .....	0	0	0	0	0	0	0	1	0	0
Earth, atmospheric, & ocean sciences .....	1	3	1	4	1	0	2	2	3	6
Mathematics .....	1	0	2	1	2	2	1	1	3	1
Computer sciences .....	0	1	2	1	1	0	4	1	3	1
Biological sciences .....	4	10	13	7	16	15	20	7	12	20
Agricultural sciences .....	4	4	0	1	1	2	6	5	9	2
Psychology .....	19	13	15	15	12	14	18	18	31	36
Social sciences .....	7	9	13	7	19	19	25	18	12	29
Non-S&E, total .....	54	76	80	77	79	80	91	87	93	102
Health .....	1	5	5	6	6	9	4	6	4	6
Humanities <sup>1</sup> .....	6	10	18	10	20	18	18	19	21	21
Education .....	37	56	50	51	37	41	60	51	50	60
Professional/other .....	10	5	7	10	16	12	9	11	18	15
Grand total, all fields .....	97	132	149	120	143	148	188	166	189	219

See explanatory information, if any, and SOURCE at end of table.

**Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999**

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, Asian/Pacific Islander										
Science and engineering, total .....	1,009	1,180	1,345	1,610	2,989	3,669	3,095	2,539	2,148	1,951
Engineering, total .....	359	405	451	527	867	1,033	897	707	556	515
Chemical .....	51	50	54	62	96	101	80	73	65	60
Civil .....	28	30	34	41	69	91	89	72	38	46
Electrical .....	115	140	175	199	304	322	276	256	206	172
Mechanical .....	69	62	78	93	179	189	166	113	90	89
Other engineering .....	96	123	110	132	219	330	286	193	157	148
Sciences, total .....	650	775	894	1,083	2,122	2,636	2,198	1,832	1,592	1,436
Physical sciences, total .....	164	172	227	265	600	751	503	402	334	257
Astronomy .....	5	0	4	4	10	22	12	8	13	3
Chemistry .....	99	122	135	157	332	416	295	235	207	187
Physics .....	58	50	88	103	255	312	195	158	113	67
Other physical sciences .....	2	0	0	1	3	1	1	1	1	0
Earth, atmospheric, & ocean sciences .....	15	17	27	22	89	104	77	72	51	39
Mathematics .....	27	57	52	79	142	208	140	98	71	59
Computer sciences .....	48	66	86	77	117	137	111	108	91	86
Biological sciences .....	200	261	269	370	720	924	890	723	661	619
Agricultural sciences .....	32	24	37	29	72	78	81	63	47	45
Psychology .....	53	59	59	73	109	122	124	127	115	129
Social sciences .....	111	119	137	168	273	312	272	239	222	202
Non-S&E, total .....	297	351	419	407	557	640	604	583	581	567
Health .....	39	44	52	45	94	93	87	87	85	85
Humanities <sup>1</sup> .....	62	81	99	108	151	194	191	181	195	196
Education .....	104	130	144	144	173	179	185	181	180	170
Professional/other .....	92	96	124	110	139	174	141	134	121	116
Grand total, all fields .....	1,306	1,531	1,764	2,017	3,546	4,309	3,699	3,122	2,729	2,518
U.S. citizens and permanent residents, black										
Science and engineering, total .....	374	464	408	469	500	560	576	623	646	715
Engineering, total .....	40	55	49	50	54	71	74	98	84	96
Chemical .....	10	8	13	6	8	3	12	16	3	11
Civil .....	1	12	3	5	8	11	8	10	10	6
Electrical .....	8	16	17	15	17	24	22	31	23	29
Mechanical .....	5	3	5	3	7	14	10	12	14	12
Other engineering .....	16	16	11	21	14	19	22	29	34	38
Sciences, total .....	334	409	359	419	446	489	502	525	562	619
Physical sciences, total .....	30	32	25	41	46	43	60	52	56	66
Astronomy .....	1	0	1	2	0	1	0	2	1	2
Chemistry .....	24	23	17	31	34	33	45	35	45	56
Physics .....	5	9	6	7	11	9	15	15	10	8
Other physical sciences .....	0	0	1	1	1	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	3	3	6	4	6	3	4	8	9	14
Mathematics .....	4	11	4	8	11	5	8	7	16	12
Computer sciences .....	1	8	5	6	10	11	12	4	14	18
Biological sciences .....	51	64	62	75	79	108	98	111	110	116
Agricultural sciences .....	15	17	14	16	22	17	25	25	19	24
Psychology .....	115	130	106	119	124	151	154	156	156	173
Social sciences .....	115	144	137	150	148	151	141	162	182	196
Non-S&E, total .....	676	702	708	811	779	915	880	865	957	1,014
Health .....	32	40	38	59	46	60	49	56	65	57
Humanities <sup>1</sup> .....	72	92	90	98	106	114	119	141	141	169
Education .....	496	472	501	557	521	627	608	558	652	650
Professional/other .....	76	98	79	97	106	114	104	110	99	138
Grand total, all fields .....	1,050	1,166	1,116	1,280	1,279	1,475	1,456	1,488	1,603	1,729

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, Hispanic										
Science and engineering, total .....	466	493	513	542	548	563	618	656	753	688
Engineering, total .....	54	61	71	66	66	76	97	95	110	82
Chemical .....	8	11	16	10	7	12	18	6	13	7
Civil .....	9	5	7	12	14	11	6	12	16	12
Electrical .....	13	16	17	17	21	15	27	25	31	29
Mechanical .....	5	9	11	5	8	8	12	15	19	9
Other engineering .....	19	20	20	22	16	30	34	37	31	25
Sciences, total .....	414	432	442	476	482	487	521	561	643	606
Physical sciences, total .....	72	65	72	79	90	73	66	69	54	57
Astronomy .....	2	1	4	2	2	4	2	3	2	0
Chemistry .....	57	46	42	51	59	43	35	44	34	42
Physics .....	13	18	26	26	29	26	29	22	18	15
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	13	16	16	13	8	13	19	15	16	20
Mathematics .....	10	9	12	16	13	15	10	20	27	15
Computer sciences .....	5	12	8	7	7	6	16	17	14	14
Biological sciences .....	89	95	102	114	131	125	128	146	169	164
Agricultural sciences .....	23	15	18	20	25	21	12	27	35	15
Psychology .....	109	122	133	131	133	145	173	171	207	202
Social sciences .....	93	98	81	96	75	89	97	96	121	119
Non-S&E, total .....	369	375	396	431	482	491	485	535	566	558
Health .....	17	16	13	24	25	30	38	32	37	46
Humanities <sup>1</sup> .....	127	136	129	145	168	154	178	207	196	193
Education .....	190	189	214	222	241	258	216	253	285	266
Professional/other .....	35	34	40	40	48	49	53	43	48	53
Grand total, all fields .....	837	868	909	973	1,030	1,054	1,103	1,191	1,319	1,246
U.S. citizens and permanent residents, Puerto Rican										
Science and engineering, total .....	115	99	120	112	131	137	140	173	171	164
Engineering, total .....	6	9	13	10	10	13	22	23	17	23
Chemical .....	2	2	3	2	2	4	4	1	3	2
Civil .....	1	1	1	1	1	1	1	5	1	2
Electrical .....	2	0	3	5	3	3	4	4	3	11
Mechanical .....	0	2	1	1	1	1	3	6	5	2
Other engineering .....	1	4	5	1	3	4	10	7	5	6
Sciences, total .....	109	90	107	102	121	124	118	150	154	141
Physical sciences, total .....	24	17	20	17	26	21	12	20	11	18
Astronomy .....	1	0	1	0	0	1	0	0	1	0
Chemistry .....	20	14	14	14	19	17	9	13	9	15
Physics .....	3	3	5	3	7	3	3	7	1	3
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	5	0	3	1	0	2	3	5	5	5
Mathematics .....	2	0	2	1	1	1	3	4	7	2
Computer sciences .....	2	3	1	1	4	0	5	6	2	6
Biological sciences .....	24	23	27	27	28	30	30	37	43	39
Agricultural sciences .....	5	0	3	10	5	3	4	5	3	1
Psychology .....	26	20	35	24	43	44	48	57	69	49
Social sciences .....	21	27	16	21	14	23	13	16	14	21
Non-S&E, total .....	95	92	109	120	126	132	109	139	128	128
Health .....	6	3	4	3	6	12	7	10	7	11
Humanities <sup>1</sup> .....	28	30	22	36	38	30	38	49	36	30
Education .....	56	52	76	70	68	69	51	69	71	70
Professional/other .....	5	7	7	11	14	21	13	11	14	17
Grand total, all fields .....	210	191	229	232	257	269	249	312	299	292

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, Mexican American										
Science and engineering, total .....	104	126	120	122	145	148	144	160	223	163
Engineering, total .....	13	14	10	12	15	19	26	18	30	13
Chemical .....	2	4	1	1	1	3	3	2	1	0
Civil .....	2	2	2	0	2	7	2	2	5	3
Electrical .....	4	3	3	2	4	3	9	5	7	4
Mechanical .....	3	3	2	0	2	2	3	3	3	1
Other engineering .....	2	2	2	9	6	4	9	6	14	5
Sciences, total .....	91	112	110	110	130	129	118	142	193	150
Physical sciences, total .....	11	15	9	12	24	13	22	15	21	16
Astronomy .....	0	0	0	0	1	1	1	0	1	0
Chemistry .....	11	12	6	8	19	8	14	9	15	9
Physics .....	0	3	3	4	4	4	7	6	5	7
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	3	4	7	2	4	4	5	3	5	5
Mathematics .....	3	3	4	4	4	6	1	3	6	7
Computer sciences .....	0	0	3	1	2	3	1	2	3	1
Biological sciences .....	22	26	24	24	30	27	28	44	54	41
Agricultural sciences .....	8	5	5	4	6	4	1	2	10	3
Psychology .....	25	35	37	42	40	48	38	49	53	44
Social sciences .....	19	24	21	21	20	24	22	24	41	33
Non-S&E, total .....	86	106	99	130	163	140	144	145	199	181
Health .....	7	3	5	8	5	8	6	7	15	16
Humanities <sup>1</sup> .....	19	27	24	35	42	34	41	38	58	46
Education .....	50	67	58	74	102	93	79	90	115	101
Professional/other .....	10	9	12	13	14	5	18	10	11	18
Grand total, all fields .....	190	232	219	252	308	288	288	305	422	344
U.S. citizens and permanent residents, other Hispanic										
Science and engineering, total .....	249	268	273	308	272	278	334	323	359	361
Engineering, total .....	35	38	48	44	41	44	49	54	63	48
Chemical .....	4	5	12	7	4	5	11	3	9	5
Civil .....	6	2	4	11	11	3	3	5	10	7
Electrical .....	7	13	11	10	14	9	14	16	21	14
Mechanical .....	2	4	8	4	5	5	6	6	11	6
Other engineering .....	16	14	13	12	7	22	15	24	12	14
Sciences, total .....	214	230	225	264	231	234	285	269	296	315
Physical sciences, total .....	37	33	43	50	40	39	32	34	22	23
Astronomy .....	1	1	3	2	1	2	1	3	0	0
Chemistry .....	26	20	22	29	21	18	12	22	10	18
Physics .....	10	12	18	19	18	19	19	9	12	5
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	5	12	6	10	4	7	11	7	6	10
Mathematics .....	5	6	6	11	8	8	6	13	14	6
Computer sciences .....	3	9	4	5	1	3	10	9	9	7
Biological sciences .....	43	46	51	63	73	68	70	65	72	84
Agricultural sciences .....	10	10	10	6	14	14	7	20	22	11
Psychology .....	58	67	61	65	50	53	87	65	85	109
Social sciences .....	53	47	44	54	41	42	62	56	66	65
Non-S&E, total .....	188	177	188	181	193	219	232	251	239	249
Health .....	4	10	4	13	14	10	25	15	15	19
Humanities <sup>1</sup> .....	80	79	83	74	88	90	99	120	102	117
Education .....	84	70	80	78	71	96	86	94	99	95
Professional/other .....	20	18	21	16	20	23	22	22	23	18
Grand total, all fields .....	437	445	461	489	465	497	566	574	598	610

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, white										
Science and engineering, total .....	13,170	13,324	13,327	13,737	13,890	13,906	14,008	13,829	14,026	13,656
Engineering, total .....	1,840	1,837	1,880	2,025	2,020	2,093	2,262	2,287	2,171	2,101
Chemical .....	318	322	284	295	259	257	275	294	276	287
Civil .....	196	159	166	168	199	194	199	220	216	240
Electrical .....	450	478	487	553	548	590	588	578	523	508
Mechanical .....	286	266	326	328	337	339	392	376	371	334
Other engineering .....	590	612	617	681	677	713	808	819	785	732
Sciences, total .....	11,330	11,487	11,447	11,712	11,870	11,813	11,746	11,542	11,855	11,555
Physical sciences, total .....	2,008	1,969	1,974	1,911	2,025	1,924	1,887	1,883	1,914	1,831
Astronomy .....	86	83	95	100	97	111	131	132	121	108
Chemistry .....	1,284	1,239	1,220	1,145	1,179	1,112	1,063	1,078	1,127	1,088
Physics .....	618	634	641	656	736	687	684	658	650	624
Other physical sciences .....	20	13	18	10	13	14	9	15	16	11
Earth, atmospheric, & ocean sciences .....	494	557	485	455	504	464	449	487	464	430
Mathematics .....	372	419	425	476	479	535	479	479	526	506
Computer sciences .....	339	355	378	410	401	452	356	361	411	348
Biological sciences .....	2,975	3,041	3,068	3,146	3,107	3,118	3,175	3,158	3,251	3,139
Agricultural sciences .....	601	545	493	438	487	473	444	411	418	398
Psychology .....	2,648	2,652	2,636	2,807	2,730	2,727	2,744	2,525	2,657	2,665
Social sciences .....	1,893	1,949	1,988	2,069	2,137	2,120	2,212	2,238	2,214	2,238
Non-S&E, total .....	9,708	9,862	10,299	10,315	10,705	10,815	10,683	10,129	10,287	10,069
Health .....	662	720	735	800	867	836	823	827	932	836
Humanities <sup>1</sup> .....	2,766	2,821	3,061	3,109	3,283	3,521	3,487	3,526	3,605	3,621
Education .....	4,900	4,889	5,051	4,965	5,044	4,853	4,943	4,452	4,416	4,392
Professional/other .....	1,380	1,432	1,452	1,441	1,511	1,605	1,430	1,324	1,334	1,220
Grand total, all fields .....	22,878	23,186	23,626	24,052	24,595	24,721	24,691	23,958	24,313	23,725
U.S. citizens and permanent residents, men										
Science and engineering, total .....	10,182	10,317	10,365	10,549	11,693	12,084	11,676	11,408	11,094	10,434
Engineering, total .....	2,070	2,158	2,192	2,349	2,605	2,822	2,862	2,816	2,594	2,383
Chemical .....	330	339	296	313	302	293	282	332	297	298
Civil .....	207	188	192	195	237	257	258	269	239	249
Electrical .....	552	638	652	715	811	851	822	832	713	681
Mechanical .....	344	322	401	398	484	514	528	482	466	400
Other engineering .....	637	671	651	728	771	907	961	901	879	755
Sciences, total .....	8,112	8,159	8,173	8,200	9,088	9,262	8,814	8,592	8,500	8,051
Physical sciences, total .....	1,871	1,846	1,843	1,809	2,164	2,133	1,959	1,910	1,851	1,711
Astronomy .....	78	79	91	88	91	116	114	132	120	91
Chemistry .....	1,114	1,093	1,040	999	1,152	1,087	1,023	1,008	1,004	974
Physics .....	663	663	696	712	907	916	814	759	716	840
Other physical sciences .....	16	11	16	10	14	14	8	11	11	6
Earth, atmospheric, & ocean sciences .....	417	461	394	384	469	450	428	443	391	370
Mathematics .....	329	406	390	426	506	588	503	453	471	413
Computer sciences .....	313	357	406	400	449	473	423	421	435	379
Biological sciences .....	2,068	2,135	2,130	2,168	2,345	2,470	2,424	2,335	2,392	2,256
Agricultural sciences .....	528	483	423	372	456	463	401	396	360	331
Psychology .....	1,220	1,128	1,206	1,223	1,169	1,128	1,045	1,024	1,066	1,053
Social sciences .....	1,366	1,343	1,381	1,418	1,530	1,557	1,631	1,610	1,534	1,538
Non-S&E, total .....	5,173	5,295	5,447	5,439	5,679	5,791	5,517	5,508	5,482	5,324
Health .....	239	252	226	260	328	325	293	288	310	325
Humanities <sup>1</sup> .....	1,660	1,703	1,832	1,815	1,978	2,075	2,000	2,203	2,220	2,200
Education .....	2,358	2,347	2,347	2,378	2,307	2,243	2,238	2,059	2,056	1,955
Professional/other .....	916	993	1,042	986	1,066	1,148	986	958	896	844
Grand total, all fields .....	15,355	15,612	15,812	15,988	17,372	17,875	17,193	16,916	16,576	15,758

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, men, American Indian/Alaskan Native										
Science and engineering, total .....	25	37	42	25	40	42	62	45	54	61
Engineering, total .....	4	4	8	2	4	9	13	14	9	10
Chemical .....	0	0	1	1	1	2	1	3	0	1
Civil .....	2	1	0	0	0	0	1	1	0	1
Electrical .....	0	1	3	0	1	1	1	5	3	1
Mechanical .....	0	1	1	0	0	2	4	5	2	2
Other engineering .....	2	1	3	1	2	4	6	0	4	5
Sciences, total .....	21	33	34	23	36	33	49	31	45	51
Physical sciences, total .....	3	8	10	3	5	5	5	10	9	7
Astronomy .....	0	0	0	1	0	0	0	1	1	1
Chemistry .....	3	7	4	1	4	3	3	6	6	3
Physics .....	0	1	6	1	1	2	2	2	2	3
Other physical sciences .....	0	0	0	0	0	0	0	1	0	0
Earth, atmospheric, & ocean sciences .....	0	2	1	4	1	0	2	1	2	3
Mathematics .....	1	0	1	1	2	1	1	1	1	1
Computer sciences .....	0	1	2	0	0	0	2	0	3	0
Biological sciences .....	3	6	8	5	11	10	11	4	6	10
Agricultural sciences .....	4	4	0	1	1	2	2	5	7	1
Psychology .....	6	5	6	6	5	6	9	6	13	13
Social sciences .....	4	7	6	3	11	9	17	4	4	16
Non-S&E, total .....	27	37	40	35	31	38	41	33	50	37
Health .....	1	3	3	0	1	2	1	2	1	0
Humanities <sup>1</sup> .....	4	3	12	7	12	10	10	8	14	11
Education .....	16	29	20	21	10	17	22	18	26	19
Professional/other .....	6	2	5	7	8	9	8	5	9	7
Grand total, all fields .....	52	74	82	60	71	80	103	78	104	98
U.S. citizens and permanent residents, men, Asian/Pacific Islander										
Science and engineering, total .....	757	806	927	1,079	2,169	2,554	2,112	1,645	1,381	1,223
Engineering, total .....	326	356	390	466	748	863	763	588	458	428
Chemical .....	40	41	38	55	71	76	62	61	46	45
Civil .....	25	26	32	39	65	77	75	58	32	41
Electrical .....	109	135	154	174	273	276	246	217	175	146
Mechanical .....	66	59	74	90	155	166	149	97	79	76
Other engineering .....	86	95	92	108	184	268	231	155	126	120
Sciences, total .....	431	450	537	613	1,421	1,691	1,349	1,057	923	795
Physical sciences, total .....	122	124	147	168	422	540	358	269	232	162
Astronomy .....	3	0	2	2	9	18	8	7	10	3
Chemistry .....	70	86	79	85	203	270	187	142	135	105
Physics .....	47	38	66	80	208	251	162	120	86	54
Other physical sciences .....	2	0	0	1	2	1	1	0	1	0
Earth, atmospheric, & ocean sciences .....	14	11	19	14	72	76	65	52	32	28
Mathematics .....	20	39	33	43	116	158	104	70	44	37
Computer sciences .....	41	51	74	58	101	107	95	82	68	67
Biological sciences .....	113	132	136	198	451	513	483	373	368	334
Agricultural sciences .....	26	16	25	20	52	62	51	45	29	28
Psychology .....	22	15	20	22	32	43	31	32	29	34
Social sciences .....	73	62	83	90	175	192	162	134	121	105
Non-S&E, total .....	152	166	209	208	300	312	290	246	262	260
Health .....	17	21	22	22	48	52	47	37	35	38
Humanities <sup>1</sup> .....	28	39	48	42	84	83	86	73	81	84
Education .....	39	45	48	58	66	59	71	52	72	64
Professional/other .....	68	61	91	86	102	118	86	84	74	74
Grand total, all fields .....	909	972	1,136	1,287	2,469	2,866	2,402	1,891	1,643	1,483

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, men, black										
Science and engineering, total .....	225	270	238	261	264	290	323	332	296	349
Engineering, total .....	34	47	43	39	41	56	55	75	62	73
Chemical .....	8	7	12	3	4	2	7	10	2	7
Civil .....	1	10	3	3	6	8	7	10	8	4
Electrical .....	7	14	15	13	14	20	17	27	19	24
Mechanical .....	5	2	5	3	6	13	7	11	14	11
Other engineering .....	13	14	8	17	11	13	17	17	19	27
Sciences, total .....	191	223	195	222	243	234	268	257	234	276
Physical sciences, total .....	23	27	19	31	33	25	47	41	25	37
Astronomy .....	1	0	0	2	0	1	0	1	1	0
Chemistry .....	17	18	12	22	25	16	35	26	17	33
Physics .....	5	9	6	7	7	8	12	14	7	4
Other physical sciences .....	0	0	1	0	1	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	2	5	4	5	3	2	7	6	9
Mathematics .....	3	7	4	7	8	4	6	5	9	6
Computer sciences .....	1	4	4	2	8	7	9	3	6	9
Biological sciences .....	29	32	38	43	34	65	58	51	41	50
Agricultural sciences .....	14	16	10	12	16	11	25	19	15	16
Psychology .....	43	44	28	44	46	39	39	43	43	40
Social sciences .....	77	91	87	79	93	80	82	88	89	109
Non-S&E, total .....	254	282	281	318	269	325	318	309	318	347
Health .....	14	17	14	18	11	18	13	15	14	12
Humanities <sup>1</sup> .....	37	44	47	56	51	53	53	68	69	72
Education .....	169	179	174	201	161	204	203	173	192	195
Professional/other .....	34	42	46	43	46	50	49	53	43	68
Grand total, all fields .....	479	552	519	579	553	615	641	641	614	696
U.S. citizens and permanent residents, men, Hispanic										
Science and engineering, total .....	290	307	308	320	318	336	346	392	426	344
Engineering, total .....	45	51	56	54	60	65	82	72	97	59
Chemical .....	7	7	12	7	7	10	12	3	13	3
Civil .....	7	3	6	10	11	10	6	11	13	6
Electrical .....	12	16	14	14	21	14	23	19	29	25
Mechanical .....	4	7	9	5	7	8	12	12	18	8
Other engineering .....	15	18	15	18	14	23	29	27	24	17
Sciences, total .....	245	256	252	266	258	271	264	320	329	285
Physical sciences, total .....	46	54	52	59	69	52	54	54	43	36
Astronomy .....	2	1	3	2	2	2	1	2	2	0
Chemistry .....	33	37	26	33	43	29	28	32	25	22
Physics .....	11	16	23	24	24	21	25	20	16	14
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	9	14	10	11	6	7	13	11	10	16
Mathematics .....	6	5	9	14	10	11	10	14	20	10
Computer sciences .....	4	11	7	6	7	2	9	15	13	11
Biological sciences .....	56	56	59	57	69	79	62	84	89	93
Agricultural sciences .....	17	12	14	15	13	16	9	20	22	8
Psychology .....	52	52	55	45	43	48	53	63	55	55
Social sciences .....	55	52	46	59	41	56	54	59	77	56
Non-S&E, total .....	159	152	174	197	200	201	214	232	253	209
Health .....	2	7	4	8	7	15	16	8	12	15
Humanities <sup>1</sup> .....	52	64	66	72	79	72	85	107	102	89
Education .....	85	65	82	94	82	91	87	93	111	64
Professional/other .....	20	16	22	23	32	23	26	24	28	21
Grand total, all fields .....	449	459	482	517	518	537	560	624	679	553

See explanatory information, if any, and SOURCE at end of table.

**Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999**

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, men, Puerto Rican										
Science and engineering, total .....	67	52	71	70	72	74	72	100	68	79
Engineering, total .....	4	7	10	8	10	11	17	19	16	15
Chemical .....	2	1	3	2	2	3	2	1	3	1
Civil .....	1	1	1	0	1	1	1	5	1	1
Electrical .....	1	0	2	4	3	3	4	3	3	9
Mechanical .....	0	2	0	1	1	1	3	6	5	2
Other engineering .....	0	3	4	1	3	3	7	4	4	2
Sciences, total .....	63	45	61	62	62	63	55	81	52	64
Physical sciences, total .....	14	11	14	12	19	12	8	18	6	10
Astronomy .....	1	0	1	0	0	0	0	0	1	0
Chemistry .....	10	9	9	9	13	9	6	11	4	7
Physics .....	3	2	4	3	6	3	2	7	1	3
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	4	0	3	1	0	1	3	4	2	4
Mathematics .....	2	0	1	1	1	0	3	3	4	2
Computer sciences .....	2	3	1	0	4	0	4	6	1	5
Biological sciences .....	14	12	16	16	14	21	12	21	20	19
Agricultural sciences .....	4	0	3	7	2	3	3	4	2	0
Psychology .....	11	6	16	13	13	13	15	20	11	15
Social sciences .....	12	13	7	12	9	13	7	5	6	9
Non-S&E, total .....	37	32	39	51	51	46	40	55	57	49
Health .....	0	2	3	0	2	7	2	3	3	5
Humanities <sup>1</sup> .....	8	11	10	18	16	14	16	26	19	14
Education .....	26	16	23	25	23	19	17	21	27	21
Professional/other .....	3	3	3	8	10	6	5	5	8	9
Grand total, all fields .....	104	84	110	121	123	120	112	155	125	128
U.S. citizens and permanent residents, men, Mexican American										
Science and engineering, total .....	67	84	79	73	87	89	91	91	136	90
Engineering, total .....	11	12	10	10	13	18	23	11	27	9
Chemical .....	2	3	1	1	1	2	2	1	1	0
Civil .....	1	2	2	0	2	7	2	1	4	1
Electrical .....	4	3	3	2	4	3	8	2	7	3
Mechanical .....	2	2	2	0	2	2	3	3	3	1
Other engineering .....	2	2	2	7	4	4	8	4	12	4
Sciences, total .....	56	72	69	63	74	71	68	80	109	81
Physical sciences, total .....	8	12	7	9	20	9	19	13	18	11
Astronomy .....	0	0	0	0	1	0	1	0	1	0
Chemistry .....	8	10	4	6	16	6	12	7	12	5
Physics .....	0	2	3	3	3	3	6	6	5	6
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	4	5	2	4	3	3	2	4	4
Mathematics .....	1	1	4	3	3	4	1	2	3	5
Computer sciences .....	0	0	3	1	2	1	1	2	3	1
Biological sciences .....	15	19	11	13	17	16	16	22	32	25
Agricultural sciences .....	7	4	4	3	4	3	1	2	7	3
Psychology .....	11	20	19	16	17	15	18	20	18	16
Social sciences .....	12	12	16	16	7	20	9	17	24	16
Non-S&E, total .....	51	48	46	59	74	70	71	70	83	70
Health .....	1	0	0	3	2	3	2	0	1	5
Humanities <sup>1</sup> .....	11	14	14	19	23	21	21	22	33	26
Education .....	31	28	26	30	38	42	38	42	44	34
Professional/other .....	8	6	6	7	11	4	10	6	5	5
Grand total, all fields .....	118	132	125	132	161	159	162	161	219	160

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, men, other Hispanic										
Science and engineering, total .....	156	171	158	177	159	173	183	201	222	175
Engineering, total .....	30	32	36	36	37	36	42	42	54	35
Chemical .....	3	3	8	4	4	5	8	1	9	2
Civil .....	5	0	3	10	8	2	3	5	8	4
Electrical .....	7	13	9	8	14	8	11	14	19	13
Mechanical .....	2	3	7	4	4	5	6	3	10	5
Other engineering .....	13	13	9	10	7	16	14	19	8	11
Sciences, total .....	126	139	122	141	122	137	141	159	168	140
Physical sciences, total .....	24	31	31	38	30	31	27	23	19	15
Astronomy .....	1	1	2	2	1	2	0	2	0	0
Chemistry .....	15	18	13	18	14	14	10	14	9	10
Physics .....	8	12	16	18	15	15	17	7	10	5
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	3	10	2	8	2	3	7	5	4	8
Mathematics .....	3	4	4	10	6	7	6	9	13	3
Computer sciences .....	2	8	3	5	1	1	4	7	9	5
Biological sciences .....	27	25	32	28	38	42	34	41	37	49
Agricultural sciences .....	6	8	7	5	7	10	5	14	13	5
Psychology .....	30	26	20	16	13	20	20	23	26	24
Social sciences .....	31	27	23	31	25	23	38	37	47	31
Non-S&E, total .....	71	72	89	87	75	85	103	107	113	90
Health .....	1	5	1	5	3	5	12	5	8	5
Humanities <sup>1</sup> .....	33	39	42	35	40	37	48	59	50	49
Education .....	28	21	33	39	21	30	32	30	40	29
Professional/other .....	9	7	13	8	11	13	11	13	15	7
Grand total, all fields .....	227	243	247	264	234	258	286	308	335	265
U.S. citizens and permanent residents, men, white										
Science and engineering, total .....	8,648	8,585	8,624	8,725	8,732	8,683	8,653	8,561	8,530	8,235
Engineering, total .....	1,614	1,602	1,640	1,764	1,715	1,772	1,915	1,955	1,865	1,751
Chemical .....	270	277	225	244	211	197	206	242	224	237
Civil .....	167	143	147	143	153	160	168	180	171	193
Electrical .....	411	444	447	504	494	523	522	524	470	464
Mechanical .....	267	236	307	296	311	314	353	343	334	289
Other engineering .....	499	502	514	577	546	578	666	666	666	568
Sciences, total .....	7,034	6,983	6,984	6,961	7,017	6,911	6,738	6,606	6,665	6,484
Physical sciences, total .....	1,623	1,586	1,575	1,523	1,617	1,476	1,456	1,471	1,465	1,435
Astronomy .....	70	77	84	79	78	92	101	110	96	86
Chemistry .....	969	926	902	846	872	760	755	773	784	794
Physics .....	570	573	575	590	656	613	593	578	576	549
Other physical sciences .....	14	10	14	8	11	11	7	10	9	6
Earth, atmospheric, & ocean sciences .....	385	415	353	345	381	356	340	358	324	305
Mathematics .....	293	335	332	352	361	409	374	344	376	348
Computer sciences .....	259	282	309	327	326	348	295	295	327	278
Biological sciences .....	1,821	1,871	1,847	1,835	1,758	1,773	1,774	1,759	1,816	1,731
Agricultural sciences .....	455	422	364	323	367	369	307	293	278	274
Psychology .....	1,075	991	1,078	1,096	1,029	983	907	833	889	904
Social sciences .....	1,123	1,081	1,126	1,160	1,178	1,197	1,285	1,253	1,190	1,209
Non-S&E, total .....	4,512	4,569	4,656	4,623	4,827	4,851	4,581	4,436	4,381	4,380
Health .....	203	199	177	208	258	234	212	219	235	256
Humanities <sup>1</sup> .....	1,505	1,516	1,629	1,606	1,727	1,820	1,735	1,849	1,854	1,904
Education .....	2,029	2,002	1,997	1,992	1,968	1,858	1,832	1,618	1,588	1,564
Professional/other .....	775	852	853	817	874	939	802	750	704	656
Grand total, all fields .....	13,160	13,154	13,280	13,348	13,559	13,534	13,234	12,997	12,911	12,615

See explanatory information, if any, and SOURCE at end of table.

**Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999**

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, women										
Science and engineering, total .....	5,182	5,597	5,577	6,024	6,494	6,912	6,963	6,994	7,174	6,994
Engineering, total .....	276	316	328	348	448	520	525	513	451	490
Chemical .....	62	60	82	64	78	88	98	77	76	76
Civil .....	34	25	23	32	55	52	47	58	58	61
Electrical .....	47	48	67	80	88	120	106	106	91	81
Mechanical .....	24	37	25	36	54	49	60	55	50	60
Other engineering .....	109	146	131	136	173	211	214	217	176	212
Sciences, total .....	4,906	5,281	5,249	5,676	6,046	6,392	6,438	6,481	6,723	6,504
Physical sciences, total .....	470	454	514	521	625	708	610	587	604	552
Astronomy .....	18	7	15	23	21	25	35	26	28	25
Chemistry .....	383	368	401	401	464	537	439	431	462	426
Physics .....	62	76	94	94	137	143	134	124	107	95
Other physical sciences .....	7	3	4	3	3	3	2	6	7	6
Earth, atmospheric, & ocean sciences .....	118	157	147	120	144	144	130	163	171	151
Mathematics .....	93	112	117	164	151	183	145	177	198	192
Computer sciences .....	90	94	83	109	94	143	91	100	123	104
Biological sciences .....	1,312	1,390	1,438	1,584	1,743	1,859	1,941	1,919	1,921	1,862
Agricultural sciences .....	159	137	150	134	160	135	175	155	183	160
Psychology .....	1,772	1,890	1,780	1,938	1,967	2,056	2,183	2,114	2,215	2,177
Social sciences .....	892	1,047	1,020	1,106	1,162	1,164	1,163	1,266	1,308	1,306
Non-S&E, total .....	6,066	6,221	6,601	6,696	7,028	7,271	7,362	7,176	7,416	7,170
Health .....	517	587	629	679	722	719	723	740	845	718
Humanities <sup>1</sup> .....	1,422	1,491	1,608	1,697	1,788	1,980	2,045	2,032	2,105	2,077
Education .....	3,429	3,441	3,670	3,590	3,756	3,752	3,824	3,685	3,685	3,654
Professional/other .....	698	702	694	730	762	820	770	719	781	721
Grand total, all fields .....	11,248	11,818	12,178	12,720	13,522	14,183	14,325	14,170	14,590	14,164
U.S. citizens and permanent residents, women, American Indian/Alaskan Native										
Science and engineering, total .....	18	19	27	18	24	26	35	34	42	56
Engineering, total .....	0	2	3	0	2	0	2	3	4	2
Chemical .....	0	1	0	0	0	0	0	1	3	1
Civil .....	0	0	1	0	0	0	1	1	0	1
Electrical .....	0	1	1	0	0	0	1	0	0	0
Mechanical .....	0	0	0	0	0	0	0	1	0	0
Other engineering .....	0	0	1	0	2	0	0	0	1	0
Sciences, total .....	18	17	24	18	22	26	33	31	38	54
Physical sciences, total .....	0	2	2	2	1	2	1	0	1	3
Astronomy .....	0	0	0	0	0	0	0	0	0	1
Chemistry .....	0	2	2	1	0	2	1	0	1	2
Physics .....	0	0	0	1	1	0	0	0	0	0
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	1	0	0	0	0	0	1	1	3
Mathematics .....	0	0	1	0	0	1	0	0	2	0
Computer sciences .....	0	0	0	1	1	0	2	1	0	1
Biological sciences .....	1	4	5	2	5	5	9	3	6	10
Agricultural sciences .....	0	0	0	0	0	0	4	0	2	1
Psychology .....	13	8	9	9	7	8	9	12	18	23
Social sciences .....	3	2	7	4	8	10	8	14	8	13
Non-S&E, total .....	27	39	40	42	48	42	50	54	43	65
Health .....	0	2	2	6	5	7	3	4	3	6
Humanities <sup>1</sup> .....	2	7	6	3	8	8	8	11	7	10
Education .....	21	27	30	30	27	24	38	33	24	41
Professional/other .....	4	3	2	3	8	3	1	6	9	8
Grand total, all fields .....	45	58	67	60	72	68	85	88	85	121

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, women, Asian/Pacific Islander										
Science and engineering, total .....	252	374	418	531	820	1,115	983	894	767	728
Engineering, total .....	33	49	61	61	119	170	134	119	98	87
Chemical .....	11	9	16	7	25	25	18	12	19	15
Civil .....	3	4	2	2	4	14	14	14	6	5
Electrical .....	6	5	21	25	31	46	30	39	31	26
Mechanical .....	3	3	4	3	24	23	17	16	11	13
Other engineering .....	10	28	18	24	35	62	55	38	31	28
Sciences, total .....	219	325	357	470	701	945	849	775	669	641
Physical sciences, total .....	42	48	80	97	178	211	145	133	102	95
Astronomy .....	2	0	2	2	1	4	4	1	3	0
Chemistry .....	29	36	56	72	129	146	108	93	72	82
Physics .....	11	12	22	23	47	61	33	38	27	13
Other physical sciences .....	0	0	0	0	1	0	0	1	0	0
Earth, atmospheric, & ocean sciences .....	1	6	8	8	17	28	12	20	19	11
Mathematics .....	7	18	19	36	26	50	36	28	27	22
Computer sciences .....	7	15	12	19	16	30	16	26	23	19
Biological sciences .....	87	129	133	172	269	411	407	350	293	285
Agricultural sciences .....	6	8	12	9	20	16	30	18	18	17
Psychology .....	31	44	39	51	77	79	93	95	86	95
Social sciences .....	38	57	54	78	98	120	110	105	101	97
Non-S&E, total .....	145	185	210	199	257	328	314	337	319	307
Health .....	22	23	30	23	46	41	40	50	50	47
Humanities <sup>1</sup> .....	34	42	51	66	67	111	105	108	114	112
Education .....	65	85	96	86	107	120	114	129	108	106
Professional/other .....	24	35	33	24	37	56	55	50	47	42
Grand total, all fields .....	397	559	628	730	1,077	1,443	1,297	1,231	1,086	1,035
U.S. citizens and permanent residents, women, black										
Science and engineering, total .....	149	194	170	208	216	270	253	291	350	366
Engineering, total .....	6	8	6	11	13	15	19	23	22	23
Chemical .....	2	1	1	3	4	1	5	6	1	4
Civil .....	0	2	0	2	2	3	1	0	2	2
Electrical .....	1	2	2	2	3	4	5	4	4	5
Mechanical .....	0	1	0	0	1	1	3	1	0	1
Other engineering .....	3	2	3	4	3	6	5	12	15	11
Sciences, total .....	143	186	164	197	203	255	234	268	328	343
Physical sciences, total .....	7	5	6	10	13	18	13	11	31	29
Astronomy .....	0	0	1	0	0	0	0	1	0	2
Chemistry .....	7	5	5	9	9	17	10	9	28	23
Physics .....	0	0	0	0	4	1	3	1	3	4
Other physical sciences .....	0	0	0	1	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	1	1	0	1	0	2	1	3	5
Mathematics .....	1	4	0	1	3	1	2	2	7	6
Computer sciences .....	0	4	1	4	2	4	3	1	8	9
Biological sciences .....	22	32	24	32	45	43	40	60	69	66
Agricultural sciences .....	1	1	4	4	6	6	0	6	4	8
Psychology .....	72	86	78	75	78	112	115	113	113	133
Social sciences .....	38	53	50	71	55	71	59	74	93	87
Non-S&E, total .....	422	420	427	493	510	590	562	556	639	667
Health .....	18	23	24	41	35	42	36	41	51	45
Humanities <sup>1</sup> .....	35	48	43	42	55	61	66	73	72	97
Education .....	327	293	327	356	360	423	405	385	460	455
Professional/other .....	42	56	33	54	60	64	55	57	56	70
Grand total, all fields .....	571	614	597	701	726	860	815	847	989	1,033

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, women, Hispanic										
Science and engineering, total .....	178	186	205	222	230	227	272	264	327	344
Engineering, total .....	9	10	15	12	6	11	15	23	13	23
Chemical .....	1	4	4	3	0	2	6	3	0	4
Civil .....	2	2	1	2	3	1	0	1	3	6
Electrical .....	1	0	3	3	0	1	4	6	2	4
Mechanical .....	1	2	2	0	1	0	0	3	1	1
Other engineering .....	4	2	5	4	2	7	5	10	7	8
Sciences, total .....	169	176	190	210	224	216	257	241	314	321
Physical sciences, total .....	26	11	20	20	21	21	12	15	11	21
Astronomy .....	0	0	1	0	0	2	1	1	0	0
Chemistry .....	24	9	16	18	16	14	7	12	9	20
Physics .....	2	2	3	2	5	5	4	2	2	1
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	4	2	6	2	2	6	6	4	6	4
Mathematics .....	4	4	3	2	3	4	0	6	7	5
Computer sciences .....	1	1	1	1	0	4	7	2	1	3
Biological sciences .....	33	39	43	57	62	46	66	62	80	71
Agricultural sciences .....	6	3	4	5	12	5	3	7	13	7
Psychology .....	57	70	78	86	90	97	120	108	152	147
Social sciences .....	38	46	35	37	34	33	43	37	44	63
Non-S&E, total .....	210	223	222	234	282	290	271	303	313	349
Health .....	15	9	9	16	18	15	22	24	25	31
Humanities <sup>1</sup> .....	75	72	63	73	89	82	93	100	94	104
Education .....	105	124	132	128	159	167	129	160	174	182
Professional/other .....	15	18	18	17	16	26	27	19	20	32
Grand total, all fields .....	388	409	427	456	512	517	543	567	640	693
U.S. citizens and permanent residents, women, Puerto Rican										
Science and engineering, total .....	48	47	49	42	59	63	68	73	103	85
Engineering, total .....	2	2	3	2	0	2	5	4	1	8
Chemical .....	0	1	0	0	0	1	2	0	0	1
Civil .....	0	0	0	1	0	0	0	0	0	1
Electrical .....	1	0	1	1	0	0	0	1	0	2
Mechanical .....	0	0	1	0	0	0	0	0	0	0
Other engineering .....	1	1	1	0	0	1	3	3	1	4
Sciences, total .....	46	45	46	40	59	61	63	69	102	77
Physical sciences, total .....	10	6	6	5	7	9	4	2	5	8
Astronomy .....	0	0	0	0	0	1	0	0	0	0
Chemistry .....	10	5	5	5	6	8	3	2	5	8
Physics .....	0	1	1	0	1	0	1	0	0	0
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	0	0	0	0	1	0	1	3	1
Mathematics .....	0	0	1	0	0	1	0	1	3	0
Computer sciences .....	0	0	0	1	0	0	1	0	1	1
Biological sciences .....	10	11	11	11	14	9	18	16	23	20
Agricultural sciences .....	1	0	0	3	3	0	1	1	1	1
Psychology .....	15	14	19	11	30	31	33	37	58	34
Social sciences .....	9	14	9	9	5	10	6	11	8	12
Non-S&E, total .....	58	60	70	69	75	86	69	84	71	79
Health .....	6	1	1	3	4	5	5	7	4	6
Humanities <sup>1</sup> .....	20	19	12	18	22	16	22	23	17	16
Education .....	30	36	53	45	45	50	34	48	44	49
Professional/other .....	2	4	4	3	4	15	8	6	6	8
Grand total, all fields .....	106	107	119	111	134	149	137	157	174	164

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, women, Mexican American										
Science and engineering, total .....	37	42	41	49	58	59	53	69	87	73
Engineering, total .....	2	2	0	2	2	1	3	7	3	4
Chemical .....	0	1	0	0	0	1	1	1	0	0
Civil .....	1	0	0	0	0	0	0	1	1	2
Electrical .....	0	0	0	0	0	0	1	3	0	1
Mechanical .....	1	1	0	0	0	0	0	0	0	0
Other engineering .....	0	0	0	2	2	0	1	2	2	1
Sciences, total .....	35	40	41	47	56	58	50	62	84	69
Physical sciences, total .....	3	3	2	3	4	4	3	2	3	5
Astronomy .....	0	0	0	0	0	1	0	0	0	0
Chemistry .....	3	2	2	2	3	2	2	2	3	4
Physics .....	0	1	0	1	1	1	1	0	0	1
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	0	2	0	0	1	2	1	1	1
Mathematics .....	2	2	0	1	1	2	0	1	3	2
Computer sciences .....	0	0	0	0	0	2	0	0	0	0
Biological sciences .....	7	7	13	11	13	11	12	22	22	16
Agricultural sciences .....	1	1	1	1	2	1	0	0	3	0
Psychology .....	14	15	18	26	23	33	20	29	35	28
Social sciences .....	7	12	5	5	13	4	13	7	17	17
Non-S&E, total .....	35	58	53	71	89	70	73	75	116	111
Health .....	6	3	5	5	3	5	4	7	14	11
Humanities <sup>1</sup> .....	8	13	10	16	19	13	20	16	25	20
Education .....	19	39	32	44	64	51	41	48	71	67
Professional/other .....	2	3	6	6	3	1	8	4	6	13
Grand total, all fields .....	72	100	94	120	147	129	126	144	203	184
U.S. citizens and permanent residents, women, other Hispanic										
Science and engineering, total .....	93	97	115	131	113	105	151	122	137	186
Engineering, total .....	5	6	12	8	4	8	7	12	9	11
Chemical .....	1	2	4	3	0	0	3	2	0	3
Civil .....	1	2	1	1	3	1	0	0	2	3
Electrical .....	0	0	2	2	0	1	3	2	2	1
Mechanical .....	0	1	1	0	1	0	0	3	1	1
Other engineering .....	3	1	4	2	0	6	1	5	4	3
Sciences, total .....	88	91	103	123	109	97	144	110	128	175
Physical sciences, total .....	13	2	12	12	10	8	5	11	3	8
Astronomy .....	0	0	1	0	0	0	1	1	0	0
Chemistry .....	11	2	9	11	7	4	2	8	1	8
Physics .....	2	0	2	1	3	4	2	2	2	0
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	2	4	2	2	4	4	2	2	2
Mathematics .....	2	2	2	1	2	1	0	4	1	3
Computer sciences .....	1	1	1	0	0	2	6	2	0	2
Biological sciences .....	16	21	19	35	35	26	36	24	35	35
Agricultural sciences .....	4	2	3	1	7	4	2	6	9	6
Psychology .....	28	41	41	49	37	33	67	42	59	85
Social sciences .....	22	20	21	23	16	19	24	19	19	34
Non-S&E, total .....	117	105	99	94	118	134	129	144	126	159
Health .....	3	5	3	8	11	5	13	10	7	14
Humanities <sup>1</sup> .....	47	40	41	39	48	53	51	61	52	68
Education .....	56	49	47	39	50	66	54	64	59	66
Professional/other .....	11	11	8	8	9	10	11	9	8	11
Grand total, all fields .....	210	202	214	225	231	239	280	266	263	345

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens and permanent residents, women, white										
Science and engineering, total .....	4,522	4,739	4,703	5,012	5,158	5,223	5,355	5,268	5,496	5,421
Engineering, total .....	226	235	240	261	305	321	347	332	306	350
Chemical .....	48	45	59	51	48	60	69	52	52	50
Civil .....	29	16	19	25	46	34	31	40	45	47
Electrical .....	39	34	40	49	54	67	66	54	53	44
Mechanical .....	19	30	19	32	26	25	39	33	37	45
Other engineering .....	91	110	103	104	131	135	142	153	119	164
Sciences, total .....	4,296	4,504	4,463	4,751	4,853	4,902	5,008	4,936	5,190	5,071
Physical sciences, total .....	385	383	399	368	408	448	431	412	449	396
Astronomy .....	16	6	11	21	19	19	30	22	25	22
Chemistry .....	315	313	318	299	307	352	308	305	343	294
Physics .....	48	61	66	66	80	74	91	80	74	75
Other physical sciences .....	6	3	4	2	2	3	2	5	7	5
Earth, atmospheric, & ocean sciences .....	109	142	132	110	123	108	109	129	140	125
Mathematics .....	79	84	93	124	118	126	105	135	150	158
Computer sciences .....	80	73	69	83	75	104	61	66	84	70
Biological sciences .....	1,154	1,170	1,221	1,311	1,349	1,345	1,401	1,399	1,435	1,408
Agricultural sciences .....	146	123	129	115	120	104	137	118	140	124
Psychology .....	1,573	1,661	1,558	1,711	1,701	1,744	1,837	1,692	1,768	1,761
Social sciences .....	770	868	862	909	959	923	927	985	1,024	1,029
Non-S&E, total .....	5,196	5,293	5,643	5,692	5,878	5,964	6,102	5,693	5,906	5,689
Health .....	459	521	558	592	609	602	611	608	697	580
Humanities <sup>1</sup> .....	1,261	1,305	1,432	1,503	1,556	1,701	1,752	1,677	1,751	1,717
Education .....	2,871	2,887	3,054	2,973	3,076	2,995	3,111	2,834	2,828	2,828
Professional/other .....	605	580	599	624	637	666	628	574	630	564
Grand total, all fields .....	9,718	10,032	10,346	10,704	11,036	11,187	11,457	10,961	11,402	11,110
U.S. citizens										
Science and engineering, total .....	14,167	14,629	14,559	14,932	15,166	15,487	15,630	16,122	16,246	15,783
Engineering, total .....	1,957	2,086	2,109	2,228	2,215	2,386	2,594	2,736	2,566	2,474
Chemical .....	342	348	318	324	293	291	318	321	327	335
Civil .....	180	173	164	168	203	206	212	249	246	259
Electrical .....	491	554	597	630	634	683	707	751	638	637
Mechanical .....	299	297	352	347	359	383	436	455	434	396
Other engineering .....	645	714	678	759	726	823	921	960	921	847
Sciences, total .....	12,210	12,543	12,450	12,704	12,951	13,101	13,036	13,386	13,680	13,309
Physical sciences, total .....	2,169	2,120	2,157	2,093	2,198	2,137	2,076	2,131	2,140	2,023
Astronomy .....	92	84	100	106	103	120	137	151	132	110
Chemistry .....	1,398	1,351	1,328	1,272	1,291	1,238	1,169	1,234	1,286	1,251
Physics .....	660	671	709	704	789	764	761	731	706	651
Other physical sciences .....	19	14	20	11	15	15	9	15	16	11
Earth, atmospheric, & ocean sciences .....	516	592	506	463	507	478	462	536	500	470
Mathematics .....	375	463	454	496	504	554	490	531	576	538
Computer sciences .....	348	388	422	425	426	484	422	430	474	412
Biological sciences .....	3,191	3,314	3,328	3,449	3,422	3,494	3,547	3,670	3,759	3,654
Agricultural sciences .....	630	564	511	457	519	492	473	468	464	440
Psychology .....	2,919	2,953	2,900	3,071	3,052	3,083	3,124	3,049	3,188	3,161
Social sciences .....	2,062	2,149	2,172	2,250	2,323	2,379	2,442	2,571	2,579	2,611
Non-S&E, total .....	10,738	10,944	11,451	11,517	11,981	12,253	12,121	12,034	12,216	11,839
Health .....	721	779	809	879	961	938	933	959	1,073	966
Humanities <sup>1</sup> .....	2,899	2,975	3,211	3,274	3,486	3,747	3,726	3,946	4,020	3,995
Education .....	5,634	5,614	5,852	5,791	5,864	5,777	5,866	5,579	5,570	5,429
Professional/other .....	1,484	1,576	1,579	1,573	1,670	1,791	1,596	1,550	1,553	1,449
Grand total, all fields .....	24,905	25,573	26,010	26,449	27,147	27,740	27,751	28,156	28,462	27,622

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, American Indian/Alaskan Native										
Science and engineering, total .....	43	56	69	43	64	68	96	79	96	117
Engineering, total .....	4	6	11	2	6	9	15	17	13	12
Chemical .....	0	1	1	1	1	2	1	4	3	2
Civil .....	2	1	1	0	0	0	2	2	0	2
Electrical .....	0	2	4	0	1	1	2	5	3	1
Mechanical .....	0	1	1	0	0	2	4	6	2	2
Other engineering .....	2	1	4	1	4	4	6	0	5	5
Sciences, total .....	39	50	58	41	58	59	81	62	83	105
Physical sciences, total .....	3	10	12	5	6	7	6	10	10	10
Astronomy .....	0	0	0	1	0	0	0	1	1	2
Chemistry .....	3	9	6	2	4	5	4	6	7	5
Physics .....	0	1	6	2	2	2	2	2	2	3
Other physical sciences .....	0	0	0	0	0	0	0	1	0	0
Earth, atmospheric, & ocean sciences .....	1	3	1	4	1	0	2	2	3	6
Mathematics .....	1	0	2	1	2	2	1	1	3	1
Computer sciences .....	0	1	2	1	1	0	4	1	3	1
Biological sciences .....	4	10	13	7	16	15	20	7	12	20
Agricultural sciences .....	4	4	0	1	1	2	6	5	9	2
Psychology .....	19	13	15	15	12	14	18	18	31	36
Social sciences .....	7	9	13	7	19	19	24	18	12	29
Non-S&E, total .....	54	74	80	77	79	80	91	87	93	102
Health .....	1	5	5	6	6	9	4	6	4	6
Humanities <sup>1</sup> .....	6	10	18	10	20	18	18	19	21	21
Education .....	37	55	50	51	37	41	60	51	50	60
Professional/other .....	10	4	7	10	16	12	9	11	18	15
Grand total, all fields .....	97	130	149	120	143	148	187	166	189	219
U.S. citizens, Asian/Pacific Islander										
Science and engineering, total .....	488	599	651	712	736	894	836	1,011	880	1,004
Engineering, total .....	157	187	214	217	202	255	272	290	245	266
Chemical .....	26	27	25	26	27	27	27	17	36	33
Civil .....	8	11	12	10	7	15	17	13	16	20
Electrical .....	51	67	95	86	97	92	109	128	87	93
Mechanical .....	27	26	35	34	28	38	40	50	36	43
Other engineering .....	45	56	47	61	43	83	79	82	70	77
Sciences, total .....	331	412	437	495	534	639	564	721	635	738
Physical sciences, total .....	86	86	108	121	122	148	107	153	119	128
Astronomy .....	1	0	2	3	4	4	5	6	6	2
Chemistry .....	54	63	65	76	70	91	55	83	71	92
Physics .....	31	23	41	42	47	53	47	64	42	34
Other physical sciences .....	0	0	0	0	1	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	4	7	14	6	7	8	8	18	7	15
Mathematics .....	11	23	21	28	18	25	23	34	25	31
Computer sciences .....	10	32	37	27	33	42	37	43	40	42
Biological sciences .....	116	160	134	190	194	228	238	258	252	297
Agricultural sciences .....	11	9	13	9	14	10	13	16	6	20
Psychology .....	44	46	47	52	81	84	77	102	94	107
Social sciences .....	49	49	63	62	65	94	61	97	92	98
Non-S&E, total .....	153	190	197	179	214	247	254	299	294	320
Health .....	26	23	32	17	36	22	37	42	33	43
Humanities <sup>1</sup> .....	30	43	46	53	59	86	82	106	104	116
Education .....	67	85	80	85	81	84	92	101	102	103
Professional/other .....	30	39	39	24	38	55	43	50	55	58
Grand total, all fields .....	641	789	848	891	950	1,141	1,090	1,310	1,174	1,324

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, black										
Science and engineering, total .....	292	368	323	376	391	471	491	538	576	639
Engineering, total .....	28	43	32	41	44	54	59	83	76	84
Chemical .....	5	4	8	4	6	2	10	12	3	9
Civil .....	0	8	0	3	8	7	6	9	8	5
Electrical .....	7	16	12	13	14	20	17	27	22	25
Mechanical .....	5	3	3	2	4	8	9	10	13	10
Other engineering .....	11	12	9	19	12	17	17	25	30	35
Sciences, total .....	264	325	291	335	347	417	432	455	500	555
Physical sciences, total .....	19	25	21	29	33	37	46	46	51	54
Astronomy .....	1	0	1	2	0	1	0	2	1	2
Chemistry .....	14	19	13	19	23	27	34	31	40	46
Physics .....	4	6	6	7	9	9	12	13	10	6
Other physical sciences .....	0	0	1	1	1	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	3	2	5	2	3	2	3	4	8	11
Mathematics .....	4	9	4	5	9	4	8	6	12	10
Computer sciences .....	1	5	4	5	7	9	12	4	12	16
Biological sciences .....	37	51	47	64	67	91	82	100	100	109
Agricultural sciences .....	9	6	6	5	10	9	15	15	8	16
Psychology .....	111	126	101	117	112	145	146	146	150	169
Social sciences .....	80	101	103	108	106	120	120	134	159	170
Non-S&E, total .....	609	642	648	735	710	836	822	811	907	957
Health .....	25	35	35	52	41	55	42	52	60	51
Humanities <sup>1</sup> .....	69	84	84	82	94	96	107	125	132	155
Education .....	456	437	467	516	486	583	581	532	625	621
Professional/other .....	59	86	62	85	89	102	92	102	90	130
Grand total, all fields .....	901	1,010	971	1,111	1,101	1,307	1,313	1,349	1,483	1,596
U.S. citizens, Hispanic										
Science and engineering, total .....	390	411	433	444	463	478	526	571	682	615
Engineering, total .....	39	49	57	56	49	60	85	81	100	71
Chemical .....	7	10	10	10	5	11	14	5	10	5
Civil .....	6	5	6	7	7	7	2	10	15	11
Electrical .....	9	12	14	16	16	14	27	22	27	28
Mechanical .....	3	8	10	3	7	5	10	14	19	8
Other engineering .....	14	14	17	20	14	23	32	30	29	19
Sciences, total .....	351	362	376	388	414	418	441	490	582	544
Physical sciences, total .....	63	54	58	65	75	61	50	58	49	51
Astronomy .....	2	1	4	1	2	3	1	3	2	0
Chemistry .....	50	39	34	43	49	38	31	36	34	38
Physics .....	11	14	20	21	24	20	18	19	13	13
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	11	12	13	8	7	7	13	15	15	18
Mathematics .....	7	6	10	9	12	12	8	17	25	12
Computer sciences .....	4	11	7	5	5	6	12	15	13	12
Biological sciences .....	73	79	90	93	111	102	106	131	150	145
Agricultural sciences .....	14	7	9	14	16	10	8	15	25	10
Psychology .....	100	113	122	120	128	137	167	161	196	192
Social sciences .....	79	80	67	74	60	83	77	78	109	104
Non-S&E, total .....	331	321	345	390	421	434	421	484	515	494
Health .....	17	12	12	19	20	29	31	29	37	39
Humanities <sup>1</sup> .....	104	105	98	122	129	123	138	172	154	156
Education .....	179	175	200	213	226	235	203	243	280	252
Professional/other .....	31	29	35	36	46	47	49	40	44	47
Grand total, all fields .....	721	732	778	834	884	912	947	1,055	1,197	1,109

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, Puerto Rican										
Science and engineering, total .....	115	99	120	112	131	137	140	173	171	164
Engineering, total .....	6	9	13	10	10	13	22	23	17	23
Chemical .....	2	2	3	2	2	4	4	1	3	2
Civil .....	1	1	1	1	1	1	1	5	1	2
Electrical .....	2	0	3	5	3	3	4	4	3	11
Mechanical .....	0	2	1	1	1	1	3	6	5	2
Other engineering .....	1	4	5	1	3	4	10	7	5	6
Sciences, total .....	109	90	107	102	121	124	118	150	154	141
Physical sciences, total .....	24	17	20	17	26	21	12	20	11	18
Astronomy .....	1	0	1	0	0	1	0	0	1	0
Chemistry .....	20	14	14	14	19	17	9	13	9	15
Physics .....	3	3	5	3	7	3	3	7	1	3
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	5	0	3	1	0	2	3	5	5	5
Mathematics .....	2	0	2	1	1	1	3	4	7	2
Computer sciences .....	2	3	1	1	4	0	5	6	2	6
Biological sciences .....	24	23	27	27	28	30	30	37	43	39
Agricultural sciences .....	5	0	3	10	5	3	4	5	3	1
Psychology .....	26	20	35	24	43	44	48	57	69	49
Social sciences .....	21	27	16	21	14	23	13	16	14	21
Non-S&E, total .....	95	92	109	120	126	132	109	139	128	128
Health .....	6	3	4	3	6	12	7	10	7	11
Humanities <sup>1</sup> .....	28	30	22	36	38	30	38	49	36	30
Education .....	56	52	76	70	68	69	51	69	71	70
Professional/other .....	5	7	7	11	14	21	13	11	14	17
Grand total, all fields .....	210	191	229	232	257	269	249	312	299	292
U.S. citizens, Mexican American										
Science and engineering, total .....	96	117	110	103	134	136	137	153	213	154
Engineering, total .....	12	14	10	10	14	14	24	18	28	11
Chemical .....	2	4	1	1	1	3	3	2	1	0
Civil .....	2	2	2	0	1	3	0	2	5	3
Electrical .....	4	3	3	2	4	3	9	5	6	3
Mechanical .....	2	3	2	0	2	1	3	3	3	1
Other engineering .....	2	2	2	7	6	4	9	6	13	4
Sciences, total .....	84	103	100	93	120	122	113	135	185	143
Physical sciences, total .....	11	15	9	9	20	13	19	14	21	15
Astronomy .....	0	0	0	0	1	1	1	0	1	0
Chemistry .....	11	12	6	6	16	8	13	9	15	9
Physics .....	0	3	3	3	3	4	5	5	5	6
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	4	6	1	4	3	5	3	5	5
Mathematics .....	3	3	3	2	4	5	1	3	6	7
Computer sciences .....	0	0	2	0	0	3	1	2	3	0
Biological sciences .....	20	23	21	22	29	24	28	40	49	39
Agricultural sciences .....	6	1	4	2	5	3	1	2	9	3
Psychology .....	25	34	36	40	38	47	38	49	51	41
Social sciences .....	17	23	19	17	20	24	20	22	41	33
Non-S&E, total .....	83	99	97	127	156	137	140	143	194	179
Health .....	7	3	5	7	3	8	6	7	15	14
Humanities <sup>1</sup> .....	17	23	22	34	39	33	39	37	53	46
Education .....	49	64	58	73	100	91	78	89	115	101
Professional/other .....	10	9	12	13	14	5	17	10	11	18
Grand total, all fields .....	179	216	207	230	290	273	277	296	407	333

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, other Hispanic										
Science and engineering, total .....	179	195	203	229	198	205	249	245	298	297
Engineering, total .....	21	26	34	36	25	33	39	40	55	37
Chemical .....	3	4	6	7	2	4	7	2	6	3
Civil .....	3	2	3	6	5	3	1	3	9	6
Electrical .....	3	9	8	9	9	8	14	13	18	14
Mechanical .....	1	3	7	2	4	3	4	5	11	5
Other engineering .....	11	8	10	12	5	15	13	17	11	9
Sciences, total .....	158	169	169	193	173	172	210	205	243	260
Physical sciences, total .....	28	22	29	39	29	27	19	24	17	18
Astronomy .....	1	1	3	1	1	1	0	3	0	0
Chemistry .....	19	13	14	23	14	13	9	14	10	14
Physics .....	8	8	12	15	14	13	10	7	7	4
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	4	8	4	6	3	2	5	7	5	8
Mathematics .....	2	3	5	6	7	6	4	10	12	3
Computer sciences .....	2	8	4	4	1	3	6	7	8	6
Biological sciences .....	29	33	42	44	54	48	48	54	58	67
Agricultural sciences .....	3	6	2	2	6	4	3	8	13	6
Psychology .....	49	59	51	56	47	46	81	55	76	102
Social sciences .....	41	30	32	36	26	36	44	40	54	50
Non-S&E, total .....	153	130	139	143	139	165	172	202	193	187
Health .....	4	6	3	9	11	9	18	12	15	14
Humanities <sup>1</sup> .....	59	52	54	52	52	60	61	86	65	80
Education .....	74	59	66	70	58	75	74	85	94	81
Professional/other .....	16	13	16	12	18	21	19	19	19	12
Grand total, all fields .....	332	325	342	372	337	370	421	447	491	484
U.S. citizens, white										
Science and engineering, total .....	12,694	12,840	12,852	13,211	13,357	13,379	13,461	13,295	13,469	13,136
Engineering, total .....	1,690	1,707	1,750	1,892	1,888	1,959	2,125	2,150	2,038	1,982
Chemical .....	299	300	267	282	246	243	262	270	263	280
Civil .....	162	143	142	147	181	175	184	206	196	218
Electrical .....	413	430	457	507	503	540	541	528	485	470
Mechanical .....	261	244	300	303	316	320	369	360	348	321
Other engineering .....	555	590	584	653	640	681	769	786	746	693
Sciences, total .....	11,004	11,133	11,102	11,319	11,471	11,420	11,336	11,145	11,431	11,154
Physical sciences, total .....	1,939	1,897	1,918	1,848	1,944	1,848	1,824	1,793	1,833	1,742
Astronomy .....	86	81	91	97	94	109	127	129	113	103
Chemistry .....	1,249	1,201	1,193	1,119	1,139	1,066	1,028	1,040	1,093	1,052
Physics .....	586	602	616	623	698	660	660	610	612	577
Other physical sciences .....	18	13	18	9	13	13	9	14	15	10
Earth, atmospheric, & ocean sciences .....	488	546	469	440	486	452	430	475	451	408
Mathematics .....	346	403	407	445	455	507	441	449	491	474
Computer sciences .....	325	330	363	379	375	418	342	341	382	329
Biological sciences .....	2,909	2,965	2,998	3,056	3,005	3,023	3,055	3,070	3,144	3,028
Agricultural sciences .....	582	527	475	426	471	456	424	397	403	385
Psychology .....	2,599	2,616	2,580	2,751	2,694	2,679	2,701	2,483	2,605	2,632
Social sciences .....	1,816	1,849	1,892	1,974	2,041	2,037	2,119	2,137	2,122	2,156
Non-S&E, total .....	9,477	9,586	10,060	10,050	10,459	10,546	10,405	9,883	10,025	9,793
Health .....	648	691	714	782	846	809	806	812	909	815
Humanities <sup>1</sup> .....	2,649	2,685	2,927	2,969	3,150	3,374	3,333	3,369	3,461	3,473
Education .....	4,842	4,820	5,007	4,897	4,989	4,801	4,882	4,408	4,360	4,324
Professional/other .....	1,338	1,390	1,412	1,402	1,474	1,562	1,384	1,294	1,295	1,181
Grand total, all fields .....	22,171	22,426	22,912	23,261	23,816	23,925	23,866	23,178	23,494	22,929

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, men										
Science and engineering, total .....	9,274	9,391	9,397	9,429	9,463	9,599	9,575	9,900	9,751	9,387
Engineering, total .....	1,709	1,807	1,826	1,932	1,872	2,012	2,177	2,321	2,192	2,048
Chemical .....	288	297	250	265	236	221	235	260	263	269
Civil .....	151	152	144	138	155	170	175	204	196	205
Electrical .....	446	510	542	573	570	604	624	677	572	575
Mechanical .....	276	263	329	314	327	355	391	409	393	344
Other engineering .....	548	585	561	642	584	662	752	771	768	655
Sciences, total .....	7,565	7,584	7,571	7,497	7,591	7,587	7,398	7,579	7,559	7,339
Physical sciences, total .....	1,747	1,708	1,710	1,647	1,745	1,618	1,609	1,659	1,629	1,553
Astronomy .....	76	77	87	86	83	99	106	126	109	87
Chemistry .....	1,046	1,015	971	920	946	829	836	883	894	889
Physics .....	613	605	636	633	703	677	660	839	617	572
Other physical sciences .....	12	11	16	8	13	13	7	11	9	5
Earth, atmospheric, & ocean sciences .....	398	444	368	351	382	366	348	391	352	335
Mathematics .....	293	370	357	372	382	422	385	388	405	373
Computer sciences .....	268	305	353	343	349	368	345	348	371	322
Biological sciences .....	1,958	2,024	1,999	2,000	1,930	2,007	1,962	2,033	2,079	2,008
Agricultural sciences .....	483	436	377	333	387	380	328	334	310	296
Psychology .....	1,195	1,106	1,176	1,202	1,143	1,093	1,019	997	1,034	1,032
Social sciences .....	1,223	1,191	1,231	1,249	1,273	1,333	1,402	1,429	1,379	1,420
Non-S&E, total .....	4,891	4,997	5,122	5,088	5,272	5,367	5,133	5,181	5,143	4,996
Health .....	221	221	203	226	283	263	248	255	273	281
Humanities <sup>1</sup> .....	1,580	1,606	1,728	1,699	1,837	1,937	1,854	2,071	2,071	2,057
Education .....	2,272	2,255	2,263	2,282	2,200	2,149	2,149	1,984	1,984	1,886
Professional/other .....	818	915	928	881	952	1,018	882	871	815	772
Grand total, all fields .....	14,165	14,388	14,519	14,517	14,735	14,966	14,708	15,081	14,894	14,383
U.S. citizens, men, American Indian/Alaskan Native										
Science and engineering, total .....	25	37	42	25	40	42	62	45	54	61
Engineering, total .....	4	4	8	2	4	9	13	14	9	10
Chemical .....	0	0	1	1	1	2	1	3	0	1
Civil .....	2	1	0	0	0	0	1	1	0	1
Electrical .....	0	1	3	0	1	1	1	5	3	1
Mechanical .....	0	1	1	0	0	2	4	5	2	2
Other engineering .....	2	1	3	1	2	4	6	0	4	5
Sciences, total .....	21	33	34	23	36	33	49	31	45	51
Physical sciences, total .....	3	8	10	3	5	5	5	10	9	7
Astronomy .....	0	0	0	1	0	0	0	1	1	1
Chemistry .....	3	7	4	1	4	3	3	6	6	3
Physics .....	0	1	6	1	1	2	2	2	2	3
Other physical sciences .....	0	0	0	0	0	0	0	1	0	0
Earth, atmospheric, & ocean sciences .....	0	2	1	4	1	0	2	1	2	3
Mathematics .....	1	0	1	1	2	1	1	1	1	1
Computer sciences .....	0	1	2	0	0	0	2	0	3	0
Biological sciences .....	3	6	8	5	11	10	11	4	6	10
Agricultural sciences .....	4	4	0	1	1	2	2	5	7	1
Psychology .....	6	5	6	6	5	6	9	6	13	13
Social sciences .....	4	7	6	3	11	9	17	4	4	16
Non-S&E, total .....	27	37	40	35	31	38	41	33	50	37
Health .....	1	3	3	0	1	2	1	2	1	0
Humanities <sup>1</sup> .....	4	3	12	7	12	10	10	8	14	11
Education .....	16	29	20	21	10	17	22	18	26	19
Professional/other .....	6	2	5	7	8	9	8	5	9	7
Grand total, all fields .....	52	74	82	60	71	80	103	78	104	98

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, men, Asian/Pacific Islander										
Science and engineering, total .....	359	407	450	479	492	571	512	639	527	635
Engineering, total .....	137	160	181	193	171	203	221	244	193	223
Chemical .....	19	20	18	22	20	16	17	14	27	23
Civil .....	7	10	11	10	7	13	11	10	13	19
Electrical .....	47	64	83	79	86	80	95	112	69	81
Mechanical .....	25	23	33	33	23	34	36	42	29	37
Other engineering .....	39	43	36	49	35	60	62	66	55	63
Sciences, total .....	222	247	269	286	321	368	291	395	334	412
Physical sciences, total .....	67	66	72	79	88	99	74	108	85	85
Astronomy .....	1	0	1	2	4	3	3	6	5	2
Chemistry .....	41	48	36	39	43	52	32	52	49	55
Physics .....	25	18	35	38	40	44	39	50	31	28
Other physical sciences .....	0	0	0	0	1	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	3	4	11	4	6	7	5	13	4	11
Mathematics .....	8	18	17	18	14	18	15	28	12	23
Computer sciences .....	9	25	34	23	29	34	28	32	30	33
Biological sciences .....	77	91	71	102	114	126	109	132	132	168
Agricultural sciences .....	9	6	8	5	12	5	6	11	5	10
Psychology .....	19	13	17	20	20	30	20	22	23	31
Social sciences .....	30	24	39	35	38	49	34	49	43	51
Non-S&E, total .....	68	76	81	74	99	96	103	110	122	137
Health .....	12	10	9	7	15	7	16	15	14	15
Humanities <sup>1</sup> .....	18	17	22	17	31	28	29	42	39	44
Education .....	19	26	22	34	28	27	31	25	38	41
Professional/other .....	19	23	28	16	25	34	27	28	31	37
Grand total, all fields .....	427	483	531	553	591	667	615	749	649	772
U.S. citizens, men, black										
Science and engineering, total .....	153	190	162	180	192	219	253	264	241	296
Engineering, total .....	23	35	26	30	31	41	40	61	55	61
Chemical .....	3	3	7	1	2	1	5	6	2	5
Civil .....	0	6	0	1	6	4	5	9	6	3
Electrical .....	6	14	10	11	11	16	12	24	18	20
Mechanical .....	5	2	3	2	3	8	6	9	13	9
Other engineering .....	9	10	6	15	9	12	12	13	16	24
Sciences, total .....	130	155	136	150	161	178	213	203	186	235
Physical sciences, total .....	13	21	16	20	21	20	34	36	25	30
Astronomy .....	1	0	0	2	0	1	0	1	1	0
Chemistry .....	8	15	9	11	15	11	24	23	17	27
Physics .....	4	6	6	7	5	8	10	12	7	3
Other physical sciences .....	0	0	1	0	1	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	1	4	2	2	2	1	3	5	6
Mathematics .....	3	5	4	4	6	3	6	4	5	4
Computer sciences .....	1	1	3	2	5	5	9	3	4	8
Biological sciences .....	16	25	25	34	24	52	46	43	34	47
Agricultural sciences .....	8	5	5	3	7	4	15	10	7	10
Psychology .....	42	42	25	43	40	37	39	39	38	39
Social sciences .....	46	55	54	42	56	55	63	65	68	91
Non-S&E, total .....	198	231	234	261	219	271	281	269	285	308
Health .....	7	13	11	15	11	14	10	12	11	8
Humanities <sup>1</sup> .....	35	37	42	44	42	42	47	55	63	63
Education .....	139	149	148	169	131	177	185	157	175	177
Professional/other .....	17	32	33	33	35	38	39	45	36	60
Grand total, all fields .....	351	421	396	441	411	490	534	533	526	604

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, men, Hispanic										
Science and engineering, total .....	237	242	263	256	262	279	290	337	380	302
Engineering, total .....	33	39	46	45	44	50	71	60	87	49
Chemical .....	7	6	8	7	5	9	9	3	10	2
Civil .....	5	3	5	5	5	6	2	9	12	5
Electrical .....	8	12	12	13	16	13	23	16	25	24
Mechanical .....	2	6	8	3	6	5	10	11	18	7
Other engineering .....	11	12	13	17	12	17	27	21	22	11
Sciences, total .....	204	203	217	211	218	229	219	277	293	253
Physical sciences, total .....	41	44	43	49	58	42	41	46	39	31
Astronomy .....	2	1	3	1	2	1	1	2	2	0
Chemistry .....	30	31	23	29	36	24	25	26	25	19
Physics .....	9	12	17	19	20	17	15	18	12	12
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	7	11	9	6	5	4	9	11	10	14
Mathematics .....	4	3	7	8	9	9	8	12	18	9
Computer sciences .....	3	10	6	4	5	2	7	13	12	9
Biological sciences .....	45	44	55	47	61	67	55	75	79	80
Agricultural sciences .....	11	6	7	9	9	9	6	12	16	6
Psychology .....	47	47	52	42	42	43	51	59	53	51
Social sciences .....	46	38	38	46	29	53	42	49	66	53
Non-S&E, total .....	143	129	147	167	176	179	183	205	228	184
Health .....	2	4	4	4	3	15	11	7	12	11
Humanities <sup>1</sup> .....	44	49	51	55	67	60	65	90	82	74
Education .....	80	63	74	88	76	82	83	85	109	82
Professional/other .....	17	13	18	20	30	22	24	23	25	17
Grand total, all fields .....	380	371	410	423	438	458	473	542	608	486
U.S. citizens, men, Puerto Rican										
Science and engineering, total .....	67	52	71	70	72	74	72	100	68	79
Engineering, total .....	4	7	10	8	10	11	17	19	16	15
Chemical .....	2	1	3	2	2	3	2	1	3	1
Civil .....	1	1	1	0	1	1	1	5	1	1
Electrical .....	1	0	2	4	3	3	4	3	3	9
Mechanical .....	0	2	0	1	1	1	3	6	5	2
Other engineering .....	0	3	4	1	3	3	7	4	4	2
Sciences, total .....	63	45	61	62	62	63	55	81	52	64
Physical sciences, total .....	14	11	14	12	19	12	8	18	6	10
Astronomy .....	1	0	1	0	0	0	0	0	1	0
Chemistry .....	10	9	9	9	13	9	6	11	4	7
Physics .....	3	2	4	3	6	3	2	7	1	3
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	4	0	3	1	0	1	3	4	2	4
Mathematics .....	2	0	1	1	1	0	3	3	4	2
Computer sciences .....	2	3	1	0	4	0	4	6	1	5
Biological sciences .....	14	12	16	16	14	21	12	21	20	19
Agricultural sciences .....	4	0	3	7	2	3	3	4	2	0
Psychology .....	11	6	16	13	13	13	15	20	11	15
Social sciences .....	12	13	7	12	9	13	7	5	6	9
Non-S&E, total .....	37	32	39	51	51	46	40	55	57	49
Health .....	0	2	3	0	2	7	2	3	3	5
Humanities <sup>1</sup> .....	8	11	10	18	16	14	16	26	19	14
Education .....	26	16	23	25	23	19	17	21	27	21
Professional/other .....	3	3	3	8	10	6	5	5	8	9
Grand total, all fields .....	104	84	110	121	123	120	112	155	125	128

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, men, Mexican American										
Science and engineering, total .....	61	76	72	61	80	79	85	87	130	82
Engineering, total .....	10	12	10	9	12	13	21	11	25	7
Chemical .....	2	3	1	1	1	2	2	1	1	0
Civil .....	1	2	2	0	1	3	0	1	4	1
Electrical .....	4	3	3	2	4	3	8	2	6	2
Mechanical .....	1	2	2	0	2	1	3	3	3	1
Other engineering .....	2	2	2	6	4	4	8	4	11	3
Sciences, total .....	51	64	62	52	68	66	64	76	105	75
Physical sciences, total .....	8	12	7	7	17	9	16	12	18	10
Astronomy .....	0	0	0	0	1	0	1	0	1	0
Chemistry .....	8	10	4	5	14	6	11	7	12	5
Physics .....	0	2	3	2	2	3	4	5	5	5
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	4	4	1	4	2	3	2	4	4
Mathematics .....	1	1	3	2	3	3	1	2	3	5
Computer sciences .....	0	0	2	0	0	1	1	2	3	0
Biological sciences .....	13	16	10	12	16	15	16	20	29	23
Agricultural sciences .....	6	1	3	1	4	2	1	2	6	3
Psychology .....	11	19	19	16	17	14	18	20	18	14
Social sciences .....	11	11	14	13	7	20	8	16	24	16
Non-S&E, total .....	48	44	45	56	70	68	70	68	80	68
Health .....	1	0	0	2	0	3	2	0	1	3
Humanities <sup>1</sup> .....	9	11	13	18	22	21	21	21	30	26
Education .....	30	27	26	29	37	40	37	41	44	34
Professional/other .....	8	6	6	7	11	4	10	6	5	5
Grand total, all fields .....	109	120	117	117	150	147	155	155	210	150
U.S. citizens, men, other Hispanic										
Science and engineering, total .....	109	114	120	125	110	126	133	150	182	141
Engineering, total .....	19	20	26	28	22	26	33	30	46	27
Chemical .....	3	2	4	4	2	4	5	1	6	1
Civil .....	3	0	2	5	3	2	1	3	7	3
Electrical .....	3	9	7	7	9	7	11	11	16	13
Mechanical .....	1	2	6	2	3	3	4	2	10	4
Other engineering .....	9	7	7	10	5	10	12	13	7	6
Sciences, total .....	90	94	94	97	88	100	100	120	136	114
Physical sciences, total .....	19	21	22	30	22	21	17	16	15	11
Astronomy .....	1	1	2	1	1	1	0	2	0	0
Chemistry .....	12	12	10	15	9	9	8	8	9	7
Physics .....	6	8	10	14	12	11	9	6	6	4
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	7	2	4	1	1	3	5	4	6
Mathematics .....	1	2	3	5	5	6	4	7	11	2
Computer sciences .....	1	7	3	4	1	1	2	5	8	4
Biological sciences .....	18	16	29	19	31	31	27	34	30	38
Agricultural sciences .....	1	5	1	1	3	4	2	6	8	3
Psychology .....	25	22	17	13	12	16	18	19	24	22
Social sciences .....	23	14	17	21	13	20	27	28	36	28
Non-S&E, total .....	58	53	63	60	55	65	73	82	91	67
Health .....	1	2	1	2	1	5	7	4	8	3
Humanities <sup>1</sup> .....	27	27	28	19	29	25	28	43	33	34
Education .....	24	20	25	34	16	23	29	23	38	27
Professional/other .....	6	4	9	5	9	12	9	12	12	3
Grand total, all fields .....	167	167	183	185	165	191	206	232	273	208

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, men, white										
Science and engineering, total .....	8,291	8,238	8,294	8,370	8,357	8,332	8,296	8,213	8,189	7,894
Engineering, total .....	1,474	1,486	1,523	1,644	1,595	1,662	1,801	1,838	1,760	1,651
Chemical .....	254	262	211	233	201	187	199	222	213	234
Civil .....	135	128	125	122	137	145	155	168	155	174
Electrical .....	374	397	419	462	453	480	482	482	443	431
Mechanical .....	242	217	281	272	291	296	332	328	316	277
Other engineering .....	469	482	487	555	513	554	633	638	633	535
Sciences, total .....	6,817	6,752	6,771	6,726	6,762	6,670	6,495	6,375	6,429	6,243
Physical sciences, total .....	1,571	1,525	1,536	1,473	1,557	1,422	1,418	1,402	1,403	1,368
Astronomy .....	70	75	81	78	75	91	98	107	91	83
Chemistry .....	942	896	886	828	843	733	738	748	765	770
Physics .....	547	544	555	560	628	587	575	537	539	510
Other physical sciences .....	12	10	14	7	11	11	7	10	8	5
Earth, atmospheric, & ocean sciences .....	379	409	339	332	366	346	326	349	317	292
Mathematics .....	272	324	319	334	344	388	348	325	353	327
Computer sciences .....	248	260	299	307	305	319	286	278	305	262
Biological sciences .....	1,776	1,825	1,802	1,782	1,700	1,724	1,710	1,717	1,762	1,668
Agricultural sciences .....	441	406	349	314	353	357	293	282	268	265
Psychology .....	1,059	980	1,059	1,081	1,022	968	894	824	872	891
Social sciences .....	1,071	1,023	1,068	1,103	1,115	1,146	1,220	1,198	1,149	1,170
Non-S&E, total .....	4,398	4,447	4,549	4,498	4,699	4,722	4,456	4,320	4,261	4,244
Health .....	198	186	171	198	250	222	207	214	224	244
Humanities <sup>1</sup> .....	1,451	1,466	1,574	1,546	1,662	1,761	1,675	1,779	1,784	1,826
Education .....	1,999	1,968	1,977	1,958	1,937	1,833	1,805	1,597	1,572	1,539
Professional/other .....	750	827	827	796	850	906	769	730	881	635
Grand total, all fields .....	12,689	12,685	12,843	12,868	13,056	13,054	12,752	12,533	12,450	12,138
U.S. citizens, women										
Science and engineering, total .....	4,893	5,238	5,162	5,503	5,703	5,888	6,055	6,222	6,495	6,396
Engineering, total .....	248	279	283	296	343	374	417	415	374	426
Chemical .....	54	51	68	59	57	70	83	61	64	66
Civil .....	29	21	20	30	48	36	37	45	50	54
Electrical .....	45	44	55	57	64	79	83	74	66	62
Mechanical .....	23	34	23	33	32	28	45	46	41	52
Other engineering .....	97	129	117	117	142	161	169	189	153	192
Sciences, total .....	4,645	4,959	4,879	5,207	5,360	5,514	5,638	5,807	6,121	5,970
Physical sciences, total .....	422	412	447	446	453	519	467	472	511	470
Astronomy .....	16	7	13	20	20	21	31	25	23	23
Chemistry .....	352	336	357	352	345	409	333	351	392	362
Physics .....	47	66	73	71	86	87	101	92	89	79
Other physical sciences .....	7	3	4	3	2	2	2	4	7	6
Earth, atmospheric, & ocean sciences .....	118	148	138	112	125	112	114	145	148	135
Mathematics .....	82	93	97	124	122	132	105	143	171	165
Computer sciences .....	80	83	69	82	77	116	77	82	103	90
Biological sciences .....	1,233	1,290	1,329	1,449	1,492	1,487	1,585	1,637	1,680	1,646
Agricultural sciences .....	147	128	134	124	132	112	145	134	154	144
Psychology .....	1,724	1,847	1,724	1,869	1,909	1,990	2,105	2,052	2,154	2,129
Social sciences .....	839	958	941	1,001	1,050	1,046	1,040	1,142	1,200	1,191
Non-S&E, total .....	5,847	5,947	6,329	6,429	6,709	6,886	6,988	6,853	7,073	6,843
Health .....	500	558	606	653	678	675	685	704	800	685
Humanities <sup>1</sup> .....	1,319	1,369	1,483	1,575	1,649	1,810	1,872	1,875	1,949	1,938
Education .....	3,362	3,359	3,589	3,509	3,664	3,628	3,717	3,595	3,586	3,543
Professional/other .....	666	661	651	692	718	773	714	679	738	677
Grand total, all fields .....	10,740	11,185	11,491	11,932	12,412	12,774	13,043	13,075	13,568	13,239

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, women, American Indian/Alaskan Native										
Science and engineering, total .....	18	19	27	18	24	26	34	34	42	56
Engineering, total .....	0	2	3	0	2	0	2	3	4	2
Chemical .....	0	1	0	0	0	0	0	1	3	1
Civil .....	0	0	1	0	0	0	1	1	0	1
Electrical .....	0	1	1	0	0	0	1	0	0	0
Mechanical .....	0	0	0	0	0	0	0	1	0	0
Other engineering .....	0	0	1	0	2	0	0	0	1	0
Sciences, total .....	18	17	24	18	22	26	32	31	38	54
Physical sciences, total .....	0	2	2	2	1	2	1	0	1	3
Astronomy .....	0	0	0	0	0	0	0	0	0	1
Chemistry .....	0	2	2	1	0	2	1	0	1	2
Physics .....	0	0	0	1	1	0	0	0	0	0
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	1	0	0	0	0	0	1	1	3
Mathematics .....	0	0	1	0	0	1	0	0	2	0
Computer sciences .....	0	0	0	1	1	0	2	1	0	1
Biological sciences .....	1	4	5	2	5	5	9	3	6	10
Agricultural sciences .....	0	0	0	0	0	0	4	0	2	1
Psychology .....	13	8	9	9	7	8	9	12	18	23
Social sciences .....	3	2	7	4	8	10	7	14	8	13
Non-S&E, total .....	27	37	40	42	48	42	50	54	43	65
Health .....	0	2	2	6	5	7	3	4	3	6
Humanities <sup>1</sup> .....	2	7	6	3	8	8	8	11	7	10
Education .....	21	26	30	30	27	24	38	33	24	41
Professional/other .....	4	2	2	3	8	3	1	6	9	8
Grand total, all fields .....	45	56	67	60	72	68	84	88	85	121
U.S. citizens, women, Asian/Pacific Islander										
Science and engineering, total .....	129	192	201	233	244	323	324	372	353	369
Engineering, total .....	20	27	33	24	31	52	51	46	52	43
Chemical .....	7	7	7	4	7	11	10	3	9	10
Civil .....	1	1	1	0	0	2	6	3	3	1
Electrical .....	4	3	12	7	11	12	14	16	18	12
Mechanical .....	2	3	2	1	5	4	4	8	7	6
Other engineering .....	6	13	11	12	8	23	17	16	15	14
Sciences, total .....	109	165	168	209	213	271	273	326	301	326
Physical sciences, total .....	19	20	36	42	34	49	33	45	34	43
Astronomy .....	0	0	1	1	0	1	2	0	1	0
Chemistry .....	13	15	29	37	27	39	23	31	22	37
Physics .....	6	5	6	4	7	9	8	14	11	6
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	3	3	2	1	1	3	5	3	4
Mathematics .....	3	5	4	10	4	7	8	6	13	8
Computer sciences .....	1	7	3	4	4	8	9	11	10	9
Biological sciences .....	39	69	63	88	80	102	129	126	120	129
Agricultural sciences .....	2	3	5	4	2	5	7	5	1	10
Psychology .....	25	33	30	32	61	54	57	80	71	76
Social sciences .....	19	25	24	27	27	45	27	48	49	47
Non-S&E, total .....	85	114	116	105	115	151	151	189	172	183
Health .....	14	13	23	10	21	15	21	27	19	28
Humanities <sup>1</sup> .....	12	26	24	36	28	58	53	64	65	72
Education .....	48	59	58	51	53	57	61	76	64	62
Professional/other .....	11	16	11	8	13	21	16	22	24	21
Grand total, all fields .....	214	306	317	338	359	474	475	561	525	552

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, women, black										
Science and engineering, total .....	139	178	161	196	199	252	238	274	335	343
Engineering, total .....	5	8	6	11	13	13	19	22	21	23
Chemical .....	2	1	1	3	4	1	5	6	1	4
Civil .....	0	2	0	2	2	3	1	0	2	2
Electrical .....	1	2	2	2	3	4	5	3	4	5
Mechanical .....	0	1	0	0	1	0	3	1	0	1
Other engineering .....	2	2	3	4	3	5	5	12	14	11
Sciences, total .....	134	170	155	185	186	239	219	252	314	320
Physical sciences, total .....	6	4	5	9	12	17	12	10	26	24
Astronomy .....	0	0	1	0	0	0	0	1	0	2
Chemistry .....	6	4	4	8	8	16	10	8	23	19
Physics .....	0	0	0	0	4	1	2	1	3	3
Other physical sciences .....	0	0	0	1	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	1	1	0	1	0	2	1	3	5
Mathematics .....	1	4	0	1	3	1	2	2	7	6
Computer sciences .....	0	4	1	3	2	4	3	1	8	8
Biological sciences .....	21	26	22	30	43	39	36	57	66	62
Agricultural sciences .....	1	1	1	2	3	5	0	5	1	6
Psychology .....	69	84	76	74	72	108	107	107	112	130
Social sciences .....	34	46	49	66	50	65	57	69	91	79
Non-S&E, total .....	411	411	414	474	491	565	541	542	622	649
Health .....	18	22	24	37	30	41	32	40	49	43
Humanities <sup>1</sup> .....	34	47	42	38	52	54	60	70	69	92
Education .....	317	288	319	347	355	406	396	375	450	444
Professional/other .....	42	54	29	52	54	64	53	57	54	70
Grand total, all fields .....	550	589	575	670	690	817	779	816	957	992
U.S. citizens, women, Hispanic										
Science and engineering, total .....	153	169	170	188	201	199	236	234	302	313
Engineering, total .....	6	10	11	11	5	10	14	21	13	22
Chemical .....	0	4	2	3	0	2	5	2	0	3
Civil .....	1	2	1	2	2	1	0	1	3	6
Electrical .....	1	0	2	3	0	1	4	6	2	4
Mechanical .....	1	2	2	0	1	0	0	3	1	1
Other engineering .....	3	2	4	3	2	6	5	9	7	8
Sciences, total .....	147	159	159	177	196	189	222	213	289	291
Physical sciences, total .....	22	10	15	16	17	19	9	12	10	20
Astronomy .....	0	0	1	0	0	2	0	1	0	0
Chemistry .....	20	8	11	14	13	14	6	10	9	19
Physics .....	2	2	3	2	4	3	3	1	1	1
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	4	1	4	2	2	3	4	4	5	4
Mathematics .....	3	3	3	1	3	3	0	5	7	3
Computer sciences .....	1	1	1	1	0	4	5	2	1	3
Biological sciences .....	28	35	35	46	50	35	51	56	71	65
Agricultural sciences .....	3	1	2	5	7	1	2	3	9	4
Psychology .....	53	66	70	78	86	94	116	102	143	141
Social sciences .....	33	42	29	28	31	30	35	29	43	51
Non-S&E, total .....	188	192	198	223	245	255	238	279	287	310
Health .....	15	8	8	15	17	14	20	22	25	28
Humanities <sup>1</sup> .....	60	58	47	67	62	63	73	82	72	82
Education .....	99	112	126	125	150	153	120	158	171	170
Professional/other .....	14	16	17	16	16	25	25	17	19	30
Grand total, all fields .....	341	361	368	411	446	454	474	513	589	623

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, women, Puerto Rican										
Science and engineering, total .....	48	47	49	42	59	63	68	73	103	85
Engineering, total .....	2	2	3	2	0	2	5	4	1	8
Chemical .....	0	1	0	0	0	1	2	0	0	1
Civil .....	0	0	0	1	0	0	0	0	0	1
Electrical .....	1	0	1	1	0	0	0	1	0	2
Mechanical .....	0	0	1	0	0	0	0	0	0	0
Other engineering .....	1	1	1	0	0	1	3	3	1	4
Sciences, total .....	46	45	46	40	59	61	63	69	102	77
Physical sciences, total .....	10	6	6	5	7	9	4	2	5	8
Astronomy .....	0	0	0	0	0	1	0	0	0	0
Chemistry .....	10	5	5	5	6	8	3	2	5	8
Physics .....	0	1	1	0	1	0	1	0	0	0
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	0	0	0	0	1	0	1	3	1
Mathematics .....	0	0	1	0	0	1	0	1	3	0
Computer sciences .....	0	0	0	1	0	0	1	0	1	1
Biological sciences .....	10	11	11	11	14	9	18	16	23	20
Agricultural sciences .....	1	0	0	3	3	0	1	1	1	1
Psychology .....	15	14	19	11	30	31	33	37	58	34
Social sciences .....	9	14	9	9	5	10	6	11	8	12
Non-S&E, total .....	58	60	70	69	75	86	69	64	71	79
Health .....	6	1	1	3	4	5	5	7	4	6
Humanities <sup>1</sup> .....	20	19	12	18	22	16	22	23	17	16
Education .....	30	36	53	45	45	50	34	48	44	49
Professional/other .....	2	4	4	3	4	15	8	6	6	8
Grand total, all fields .....	106	107	119	111	134	149	137	157	174	164
U.S. citizens, women, Mexican American										
Science and engineering, total .....	35	41	38	42	54	57	52	66	83	72
Engineering, total .....	2	2	0	1	2	1	3	7	3	4
Chemical .....	0	1	0	0	0	1	1	1	0	0
Civil .....	1	0	0	0	0	0	0	1	1	2
Electrical .....	0	0	0	0	0	0	1	3	0	1
Mechanical .....	1	1	0	0	0	0	0	0	0	0
Other engineering .....	0	0	0	1	2	0	1	2	2	1
Sciences, total .....	33	39	38	41	52	56	49	59	80	68
Physical sciences, total .....	3	3	2	2	3	4	3	2	3	5
Astronomy .....	0	0	0	0	0	1	0	0	0	0
Chemistry .....	3	2	2	1	2	2	2	2	3	4
Physics .....	0	1	0	1	1	1	1	0	0	1
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	1	0	2	0	0	1	2	1	1	1
Mathematics .....	2	2	0	0	1	2	0	1	3	2
Computer sciences .....	0	0	0	0	0	2	0	0	0	0
Biological sciences .....	7	7	11	10	13	9	12	20	20	16
Agricultural sciences .....	0	0	1	1	1	1	0	0	3	0
Psychology .....	14	15	17	24	21	33	20	29	33	27
Social sciences .....	6	12	5	4	13	4	12	6	17	17
Non-S&E, total .....	35	55	52	71	86	69	70	75	114	111
Health .....	6	3	5	5	3	5	4	7	14	11
Humanities <sup>1</sup> .....	8	12	9	16	17	12	18	16	23	20
Education .....	19	37	32	44	63	51	41	48	71	67
Professional/other .....	2	3	6	6	3	1	7	4	6	13
Grand total, all fields .....	70	96	90	113	140	126	122	141	197	183

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens, women, other Hispanic										
Science and engineering, total .....	70	81	63	104	88	79	116	95	116	156
Engineering, total .....	2	6	8	8	3	7	6	10	9	10
Chemical .....	0	2	2	3	0	0	2	1	0	2
Civil .....	0	2	1	1	2	1	0	0	2	3
Electrical .....	0	0	1	2	0	1	3	2	2	1
Mechanical .....	0	1	1	0	1	0	0	3	1	1
Other engineering .....	2	1	3	2	0	5	1	4	4	3
Sciences, total .....	68	75	75	96	85	72	110	85	107	146
Physical sciences, total .....	9	1	7	9	7	6	2	8	2	7
Astronomy .....	0	0	1	0	0	0	0	1	0	0
Chemistry .....	7	1	4	8	5	4	1	6	1	7
Physics .....	2	0	2	1	2	2	1	1	1	0
Other physical sciences .....	0	0	0	0	0	0	0	0	0	0
Earth, atmospheric, & ocean sciences .....	2	1	2	2	2	1	2	2	1	2
Mathematics .....	1	1	2	1	2	0	0	3	1	1
Computer sciences .....	1	1	1	0	0	2	4	2	0	2
Biological sciences .....	11	17	13	25	23	17	21	20	28	29
Agricultural sciences .....	2	1	1	1	3	0	1	2	5	3
Psychology .....	24	37	34	43	35	30	63	36	52	80
Social sciences .....	18	16	15	15	13	16	17	12	18	22
Non-S&E, total .....	95	77	76	83	84	100	99	120	102	120
Health .....	3	4	2	7	10	4	11	8	7	11
Humanities <sup>1</sup> .....	32	25	26	33	23	35	33	43	32	46
Education .....	50	39	41	36	42	52	45	62	56	54
Professional/other .....	10	9	7	7	9	9	10	7	7	9
Grand total, all fields .....	165	158	159	187	172	179	215	215	218	276
U.S. citizens, women, white										
Science and engineering, total .....	4,403	4,602	4,558	4,841	5,000	5,047	5,165	5,082	5,280	5,242
Engineering, total .....	216	221	227	248	291	297	324	312	278	331
Chemical .....	45	38	56	49	45	56	63	48	50	46
Civil .....	27	15	17	25	44	30	29	38	41	44
Electrical .....	39	33	36	45	50	60	59	46	42	39
Mechanical .....	19	27	19	31	25	24	37	32	32	44
Other engineering .....	86	108	97	98	127	127	136	148	113	158
Sciences, total .....	4,187	4,381	4,331	4,593	4,709	4,750	4,841	4,770	5,002	4,911
Physical sciences, total .....	368	372	382	375	387	426	406	391	430	374
Astronomy .....	16	6	10	19	19	18	29	22	22	20
Chemistry .....	307	305	307	291	296	333	290	292	328	282
Physics .....	39	58	61	63	70	73	85	73	73	67
Other physical sciences .....	6	3	4	2	2	2	2	4	7	5
Earth, atmospheric, & ocean sciences .....	109	137	130	108	120	106	104	126	134	116
Mathematics .....	74	79	88	111	111	119	93	124	138	147
Computer sciences .....	77	70	64	72	70	99	56	63	77	67
Biological sciences .....	1,133	1,140	1,196	1,274	1,305	1,299	1,345	1,353	1,382	1,360
Agricultural sciences .....	141	121	126	112	118	99	131	115	135	120
Psychology .....	1,540	1,636	1,521	1,670	1,672	1,711	1,807	1,659	1,733	1,741
Social sciences .....	745	826	824	871	926	891	899	939	973	986
Non-S&E, total .....	5,079	5,139	5,511	5,552	5,760	5,824	5,949	5,563	5,764	5,549
Health .....	450	505	543	584	596	587	599	598	685	571
Humanities <sup>1</sup> .....	1,198	1,219	1,353	1,423	1,488	1,613	1,658	1,590	1,677	1,647
Education .....	2,843	2,852	3,030	2,939	3,052	2,968	3,077	2,811	2,788	2,785
Professional/other .....	588	563	585	606	624	656	615	564	614	546
Grand total, all fields .....	9,482	9,741	10,069	10,393	10,760	10,871	11,114	10,645	11,044	10,791

See explanatory information, if any, and SOURCE at end of table.



Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-U.S. citizens with permanent visas										
Science and engineering, total .....	1,197	1,285	1,383	1,641	3,021	3,509	3,009	2,280	2,022	1,645
Engineering, total .....	389	388	411	469	838	956	793	593	479	399
Chemical .....	50	51	60	53	87	90	73	68	46	39
Civil .....	61	40	51	59	89	103	93	78	51	51
Electrical .....	108	132	122	165	265	288	221	187	166	125
Mechanical .....	69	62	74	87	179	180	152	82	82	64
Other engineering .....	101	103	104	105	218	295	254	158	134	120
Sciences, total .....	808	897	972	1,172	2,183	2,553	2,216	1,687	1,543	1,246
Physical sciences, total .....	172	180	200	237	591	704	493	366	315	240
Astronomy .....	4	2	6	5	9	21	12	7	16	6
Chemistry .....	99	110	113	128	325	386	293	205	180	149
Physics .....	65	68	81	102	255	295	187	152	117	84
Other physical sciences .....	4	0	0	2	2	2	1	2	2	1
Earth, atmospheric, & ocean sciences .....	19	26	35	41	106	116	96	70	62	51
Mathematics .....	47	55	53	94	153	217	158	99	93	67
Computer sciences .....	55	63	67	84	117	132	92	91	84	71
Biological sciences .....	189	211	240	303	666	835	818	584	554	464
Agricultural sciences .....	57	56	62	49	97	106	103	83	79	51
Psychology .....	73	65	86	90	84	101	104	89	93	69
Social sciences .....	196	241	229	274	369	342	352	305	263	233
Non-S&E, total .....	501	572	597	618	726	809	758	650	682	655
Health .....	35	60	46	60	89	106	83	69	82	77
Humanities <sup>1</sup> .....	183	219	229	238	280	308	319	289	305	282
Education .....	153	174	165	177	199	218	196	165	171	180
Professional/other .....	130	119	157	143	158	177	160	127	124	116
Grand total, all fields .....	1,698	1,857	1,980	2,259	3,747	4,318	3,767	2,930	2,704	2,300
Non-U.S. citizens with permanent visas, men										
Science and engineering, total .....	908	926	968	1,120	2,230	2,485	2,101	1,508	1,343	1,047
Engineering, total .....	361	351	366	417	733	810	685	495	402	335
Chemical .....	42	42	46	48	66	72	58	72	34	29
Civil .....	56	36	48	57	82	87	83	65	43	44
Electrical .....	106	128	110	142	241	247	198	155	141	106
Mechanical .....	68	59	72	84	157	159	137	73	73	56
Other engineering .....	89	86	90	86	187	245	209	130	111	100
Sciences, total .....	547	575	602	703	1,497	1,675	1,416	1,013	941	712
Physical sciences, total .....	124	138	133	162	419	515	350	251	222	158
Astronomy .....	2	2	4	2	8	17	8	6	11	4
Chemistry .....	68	78	69	79	206	258	187	125	110	85
Physics .....	50	58	60	79	204	239	154	120	99	68
Other physical sciences .....	4	0	0	2	1	1	1	0	2	1
Earth, atmospheric, & ocean sciences .....	19	17	26	33	87	84	80	52	39	35
Mathematics .....	36	36	33	54	124	166	118	65	66	40
Computer sciences .....	45	52	53	57	100	105	78	73	64	57
Biological sciences .....	110	111	131	168	415	463	462	302	313	248
Agricultural sciences .....	45	47	46	39	69	83	73	62	50	35
Psychology .....	25	22	30	21	26	35	26	27	32	21
Social sciences .....	143	152	150	169	257	224	229	181	155	118
Non-S&E, total .....	282	298	325	351	407	424	384	327	339	328
Health .....	18	31	23	34	45	62	45	33	37	44
Humanities <sup>1</sup> .....	80	97	104	116	141	138	146	132	149	143
Education .....	86	92	84	96	107	94	89	75	72	69
Professional/other .....	98	78	114	105	114	130	104	87	81	72
Grand total, all fields .....	1,190	1,224	1,293	1,471	2,637	2,909	2,485	1,835	1,682	1,375

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-U.S. citizens with permanent visas, women										
Science and engineering, total .....	289	359	415	521	791	1,024	908	772	679	598
Engineering, total .....	28	37	45	52	105	146	108	98	77	64
Chemical .....	8	9	14	5	21	18	15	16	12	10
Civil .....	5	4	3	2	7	16	10	13	8	7
Electrical .....	2	4	12	23	24	41	23	32	25	19
Mechanical .....	1	3	2	3	22	21	15	9	9	8
Other engineering .....	12	17	14	19	31	50	45	28	23	20
Sciences, total .....	261	322	370	469	686	878	800	674	602	534
Physical sciences, total .....	48	42	67	75	172	189	143	115	93	82
Astronomy .....	2	0	2	3	1	4	4	1	5	2
Chemistry .....	31	32	44	49	119	128	106	80	70	64
Physics .....	15	10	21	23	51	56	33	32	18	16
Other physical sciences .....	0	0	0	0	1	1	0	2	0	0
Earth, atmospheric, & ocean sciences .....	0	9	9	8	19	32	16	18	23	16
Mathematics .....	11	19	20	40	29	51	40	34	27	27
Computer sciences .....	10	11	14	27	17	27	14	18	20	14
Biological sciences .....	79	100	109	135	251	372	356	282	241	216
Agricultural sciences .....	12	9	16	10	28	23	30	21	29	16
Psychology .....	48	43	56	69	58	66	78	62	61	48
Social sciences .....	53	89	79	105	112	118	123	124	108	115
Non-S&E, total .....	219	274	272	267	319	385	374	323	343	327
Health .....	17	29	23	26	44	44	38	36	45	33
Humanities <sup>1</sup> .....	103	122	125	122	139	170	173	157	156	139
Education .....	67	82	81	81	92	124	107	90	99	111
Professional/other .....	32	41	43	38	44	47	56	40	43	44
Grand total, all fields .....	508	633	687	788	1,110	1,409	1,282	1,095	1,022	925
Non-U.S. citizens with temporary visas										
Science and engineering, total .....	6,571	7,641	8,092	8,113	7,521	6,994	7,806	7,498	7,779	7,241
Engineering, total .....	2,277	2,633	2,743	2,784	2,653	2,524	2,720	2,550	2,584	2,193
Chemical .....	250	281	339	336	336	318	399	343	373	284
Civil .....	284	353	357	380	385	337	369	310	317	253
Electrical .....	602	690	725	703	735	712	749	711	709	636
Mechanical .....	465	493	538	554	459	437	431	448	454	353
Other engineering .....	676	816	784	811	738	720	772	738	731	667
Sciences, total .....	4,294	5,008	5,349	5,329	4,868	4,470	5,086	4,948	5,195	5,048
Physical sciences, total .....	1,073	1,257	1,346	1,263	1,107	930	1,140	1,082	1,205	1,130
Astronomy .....	30	37	28	34	32	28	42	37	52	39
Chemistry .....	530	689	729	675	597	493	613	598	661	624
Physics .....	507	525	581	550	471	399	482	445	487	462
Other physical sciences .....	6	6	8	4	7	10	3	2	5	5
Earth, atmospheric, & ocean sciences .....	171	185	236	235	197	173	205	229	216	242
Mathematics .....	424	506	511	517	448	382	442	442	447	444
Computer sciences .....	271	340	365	348	343	365	376	330	329	330
Biological sciences .....	853	1,059	1,159	1,246	1,058	969	1,240	1,320	1,333	1,286
Agricultural sciences .....	440	435	472	447	453	429	441	391	462	459
Psychology .....	117	133	156	148	151	164	181	137	168	154
Social sciences .....	945	1,093	1,104	1,125	1,111	1,058	1,061	1,017	1,035	1,003
Non-S&E, total .....	1,522	1,670	1,861	1,819	1,885	1,817	1,808	1,680	1,719	1,827
Health .....	166	171	226	214	230	246	267	273	287	287
Humanities <sup>1</sup> .....	354	444	495	466	529	548	522	529	532	540
Education .....	501	503	553	546	537	502	477	408	488	519
Professional/other .....	501	552	587	593	589	521	542	470	412	481
Grand total, all fields .....	8,093	9,311	9,953	9,932	9,406	8,811	9,614	9,178	9,498	9,068

See explanatory information, if any, and SOURCE at end of table.

Table 3. Science and engineering (S&E) doctorates awarded, by citizenship status, sex, racial/ethnic group, and major field of study of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-U.S. citizens with temporary visas, men										
Science and engineering, total .....	5,590	6,412	6,741	6,658	6,200	5,749	6,310	5,977	6,025	5,594
Engineering, total .....	2,157	2,484	2,574	2,623	2,475	2,365	2,492	2,339	2,310	1,934
Chemical .....	234	259	308	309	301	297	354	300	313	240
Civil .....	271	337	330	358	360	314	338	289	278	227
Electrical .....	573	659	679	660	679	668	697	675	657	574
Mechanical .....	452	473	518	535	445	424	415	419	425	322
Other engineering .....	627	756	739	761	690	662	688	656	637	571
Sciences, total .....	3,433	3,928	4,167	4,035	3,725	3,384	3,818	3,638	3,715	3,660
Physical sciences, total .....	895	1,041	1,098	1,015	908	770	931	859	926	883
Astronomy .....	28	30	24	32	28	24	36	27	34	32
Chemistry .....	421	547	556	503	440	378	465	445	458	444
Physics .....	441	460	510	477	433	360	428	387	431	402
Other physical sciences .....	5	4	8	3	7	8	2	0	3	5
Earth, atmospheric, & ocean sciences .....	153	165	198	202	158	151	169	193	175	195
Mathematics .....	363	420	427	422	364	304	359	367	362	367
Computer sciences .....	256	317	329	322	302	322	335	292	306	282
Biological sciences .....	582	694	787	809	703	635	799	816	795	819
Agricultural sciences .....	359	366	391	357	366	340	340	298	355	343
Psychology .....	62	77	81	64	71	79	87	58	67	70
Social sciences .....	763	848	856	844	853	783	798	755	729	701
Non-S&E, total .....	1,042	1,105	1,222	1,205	1,129	1,110	1,090	998	1,005	1,046
Health .....	101	101	159	138	115	142	151	135	157	139
Humanities <sup>1</sup> .....	211	255	280	275	294	309	280	295	273	297
Education .....	306	288	299	306	269	244	242	203	249	245
Professional/other .....	424	461	484	486	451	415	417	365	326	365
Grand total, all fields .....	6,632	7,517	7,963	7,863	7,329	6,859	7,400	6,975	7,030	6,640
Non-U.S. citizens with temporary visas, women										
Science and engineering, total .....	981	1,229	1,351	1,455	1,321	1,245	1,496	1,521	1,754	1,647
Engineering, total .....	120	149	169	161	178	159	228	211	274	259
Chemical .....	16	22	31	27	35	21	45	43	60	44
Civil .....	13	16	27	22	25	23	31	21	39	26
Electrical .....	29	31	46	43	56	44	52	36	52	62
Mechanical .....	13	20	20	19	14	13	16	29	29	31
Other engineering .....	49	60	45	50	48	58	84	82	94	96
Sciences, total .....	861	1,080	1,182	1,294	1,143	1,086	1,268	1,310	1,480	1,388
Physical sciences, total .....	178	216	248	248	199	160	209	223	279	247
Astronomy .....	2	7	4	2	4	4	6	10	18	7
Chemistry .....	109	142	173	172	157	115	148	153	203	180
Physics .....	66	65	71	73	38	39	54	58	56	60
Other physical sciences .....	1	2	0	1	0	2	1	2	2	0
Earth, atmospheric, & ocean sciences .....	18	20	38	33	39	22	36	36	41	47
Mathematics .....	61	86	84	95	84	78	83	75	85	77
Computer sciences .....	15	23	36	26	41	43	41	38	23	48
Biological sciences .....	271	365	372	437	355	334	441	504	538	467
Agricultural sciences .....	81	69	81	90	87	89	101	93	107	116
Psychology .....	55	56	75	84	80	85	94	79	101	84
Social sciences .....	182	245	248	281	258	275	263	262	306	302
Non-S&E, total .....	480	565	639	614	756	707	718	682	714	781
Health .....	65	70	67	76	115	104	116	138	130	148
Humanities <sup>1</sup> .....	143	189	215	191	235	239	242	234	259	273
Education .....	195	215	254	240	268	258	235	205	239	244
Professional/other .....	77	91	103	107	138	106	125	105	86	116
Grand total, all fields .....	1,461	1,794	1,990	2,069	2,077	1,952	2,214	2,203	2,468	2,428

<sup>1</sup> Categories differ from those published by other Federal sponsors and the National Research Council in that linguistics, history of science, American studies, and archaeology are included not in humanities but in social science.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates

Table 4. Science and engineering (S&E) doctorates awarded, by major field and citizenship status of recipients: 1990-1999

Page 1 of 7

Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	Total									
Science and engineering, total .....	22,868	24,023	24,675	25,443	26,205	26,535	27,229	27,245	27,309	25,953
Engineering, total .....	4,894	5,214	5,438	5,698	5,822	6,008	6,305	6,114	5,930	5,337
Aeronautical/astronautical .....	192	207	234	228	230	252	287	273	243	207
Chemical .....	658	691	725	737	725	708	798	767	775	678
Civil .....	553	575	594	624	684	656	697	656	651	585
Electrical .....	1,276	1,405	1,483	1,543	1,673	1,731	1,740	1,721	1,596	1,477
Industrial .....	151	165	196	236	228	284	258	246	230	209
Materials/metallurgical .....	440	489	485	535	539	588	572	581	565	470
Mechanical .....	884	875	987	1,030	1,015	1,025	1,052	1,021	1,023	853
Other engineering .....	740	807	734	765	728	764	901	849	847	858
Sciences, total .....	17,974	18,809	19,237	19,745	20,383	20,527	20,924	21,131	21,379	20,616
Physical sciences, total .....	3,524	3,626	3,781	3,699	3,977	3,841	3,837	3,768	3,829	3,582
Astronomy .....	128	125	134	145	144	173	192	198	208	160
Chemistry .....	2,100	2,194	2,214	2,137	2,257	2,162	2,148	2,147	2,219	2,134
Physics .....	1,265	1,286	1,403	1,399	1,548	1,479	1,484	1,401	1,378	1,271
Other physical sciences .....	31	21	30	18	28	27	13	22	24	17
Earth, atmospheric, and ocean sciences .....	738	815	794	771	824	780	794	878	814	807
Mathematics .....	892	1,039	1,058	1,148	1,118	1,190	1,122	1,125	1,177	1,085
Computer sciences .....	705	800	869	880	903	997	921	910	925	850
Biological sciences .....	4,328	4,650	4,799	5,092	5,203	5,376	5,723	5,786	5,854	5,600
Agricultural sciences .....	1,174	1,073	1,063	968	1,078	1,036	1,037	982	1,037	965
Psychology .....	3,281	3,250	3,263	3,420	3,379	3,429	3,491	3,571	3,685	3,667
Social sciences .....	3,332	3,556	3,610	3,769	3,901	3,878	3,999	4,111	4,058	4,060
Non-S&E, total .....	13,199	13,511	14,215	14,358	14,829	15,208	15,185	15,310	15,374	15,187
Health .....	956	1,041	1,112	1,197	1,296	1,330	1,324	1,423	1,503	1,410
Humanities <sup>1</sup> .....	3,535	3,720	4,036	4,092	4,374	4,690	4,713	5,037	5,114	5,045
Education .....	6,510	6,454	6,677	6,689	6,708	6,649	6,772	6,573	6,575	6,557
Professional/other .....	2,198	2,296	2,390	2,380	2,451	2,539	2,376	2,277	2,182	2,175
Grand total, all fields .....	36,067	37,534	38,890	39,801	41,034	41,743	42,414	42,555	42,683	41,140

See explanatory information, if any, and SOURCE at end of table.

Table 4. Science and engineering (S&E) doctorates awarded, by major field  
and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Citizenship known										
Science and engineering, total .....	21,935	23,555	24,034	24,686	25,708	25,990	26,445	25,900	26,047	24,669
Engineering, total .....	4,623	5,107	5,263	5,481	5,706	5,866	6,107	5,879	5,629	5,066
Aeronautical/astronautical .....	176	205	215	219	226	247	277	265	223	194
Chemical .....	642	680	717	713	716	699	790	752	746	658
Civil .....	525	566	572	607	677	646	674	637	614	563
Electrical .....	1,201	1,376	1,444	1,498	1,634	1,683	1,677	1,649	1,513	1,398
Industrial .....	148	162	192	230	228	280	252	237	222	207
Materials/metallurgical .....	424	481	469	516	530	575	556	558	541	452
Mechanical .....	833	852	964	988	997	1,000	1,019	985	970	813
Other engineering .....	674	785	690	710	698	736	862	796	800	781
Sciences, total .....	17,312	18,448	18,771	19,205	20,002	20,124	20,338	20,021	20,418	19,603
Physical sciences, total .....	3,414	3,557	3,703	3,593	3,896	3,771	3,709	3,579	3,660	3,393
Astronomy .....	126	123	134	145	144	169	191	195	200	155
Chemistry .....	2,027	2,150	2,170	2,075	2,213	2,117	2,075	2,037	2,127	2,024
Physics .....	1,232	1,264	1,371	1,356	1,515	1,458	1,430	1,328	1,310	1,197
Other physical sciences .....	29	20	28	17	24	27	13	19	23	17
Earth, atmospheric, and ocean sciences .....	706	803	777	739	810	767	763	835	778	763
Mathematics .....	846	1,024	1,018	1,107	1,105	1,153	1,090	1,072	1,116	1,049
Computer sciences .....	674	791	854	857	886	981	890	851	887	813
Biological sciences .....	4,233	4,584	4,727	4,998	5,146	5,298	5,605	5,574	5,646	5,404
Agricultural sciences .....	1,127	1,055	1,045	953	1,069	1,027	1,017	942	1,005	950
Psychology .....	3,109	3,151	3,142	3,309	3,287	3,348	3,409	3,275	3,449	3,384
Social sciences .....	3,203	3,483	3,505	3,649	3,803	3,779	3,855	3,893	3,877	3,847
Non-S&E, total .....	12,761	13,186	13,909	13,954	14,592	14,879	14,687	14,364	14,617	14,321
Health .....	922	1,010	1,081	1,153	1,280	1,290	1,283	1,301	1,442	1,330
Humanities <sup>1</sup> .....	3,436	3,638	3,935	3,978	4,295	4,603	4,567	4,764	4,857	4,817
Education .....	6,288	6,291	6,570	6,514	6,600	6,497	6,539	6,152	6,229	6,128
Professional/other .....	2,115	2,247	2,323	2,309	2,417	2,489	2,298	2,147	2,089	2,046
Grand total, all fields .....	34,696	36,741	37,943	38,640	40,300	40,869	41,132	40,264	40,664	38,990

See explanatory information, if any, and SOURCE at end of table.

Table 4. Science and engineering (S&E) doctorates awarded, by major field and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	U.S. citizens									
Science and engineering, total .....	14,167	14,629	14,559	14,932	15,166	15,487	15,630	16,122	16,246	15,783
Engineering, total .....	1,957	2,086	2,109	2,228	2,215	2,386	2,594	2,736	2,566	2,474
Aeronautical/astronautical .....	82	103	95	114	110	140	166	155	139	103
Chemical .....	342	348	318	324	293	291	318	321	327	335
Civil .....	180	173	164	168	203	206	212	249	246	259
Electrical .....	491	554	597	630	634	683	707	751	638	637
Industrial .....	56	50	54	89	89	108	107	102	84	86
Materials/metallurgical .....	190	211	202	228	218	238	244	271	265	223
Mechanical .....	299	297	352	347	359	383	436	455	434	396
Other engineering .....	317	350	327	328	309	337	404	432	433	435
Sciences, total .....	12,210	12,543	12,450	12,704	12,951	13,101	13,036	13,386	13,680	13,309
Physical sciences, total .....	2,169	2,120	2,157	2,093	2,198	2,137	2,076	2,131	2,140	2,023
Astronomy .....	92	84	100	106	103	120	137	151	132	110
Chemistry .....	1,398	1,351	1,328	1,272	1,291	1,238	1,169	1,234	1,286	1,251
Physics .....	660	671	709	704	789	764	761	731	706	651
Other physical sciences .....	19	14	20	11	15	15	9	15	16	11
Earth, atmospheric, and ocean sciences .....	516	592	506	463	507	478	462	536	500	470
Mathematics .....	375	463	454	496	504	554	490	531	576	538
Computer sciences .....	348	388	422	425	426	484	422	430	474	412
Biological sciences .....	3,191	3,314	3,328	3,449	3,422	3,494	3,547	3,670	3,759	3,654
Agricultural sciences .....	630	564	511	457	519	492	473	468	464	440
Psychology .....	2,919	2,953	2,900	3,071	3,052	3,083	3,124	3,049	3,188	3,161
Social sciences .....	2,062	2,149	2,172	2,250	2,323	2,379	2,442	2,571	2,579	2,611
Non-S&E, total .....	10,738	10,944	11,451	11,517	11,981	12,253	12,121	12,034	12,216	11,839
Health .....	721	779	809	879	961	938	933	959	1,073	966
Humanities <sup>1</sup> .....	2,899	2,975	3,211	3,274	3,486	3,747	3,726	3,946	4,020	3,995
Education .....	5,634	5,614	5,852	5,791	5,864	5,777	5,866	5,579	5,570	5,429
Professional/other .....	1,484	1,576	1,579	1,573	1,670	1,791	1,596	1,550	1,553	1,449
Grand total, all fields .....	24,905	25,573	26,010	26,449	27,147	27,740	27,751	28,156	28,462	27,622

See explanatory information, if any, and SOURCE at end of table.

Table 4. Science and engineering (S&E) doctorates awarded, by major field  
and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	Non-U.S. citizens									
Science and engineering, total .....	7,768	8,926	9,475	9,754	10,542	10,503	10,815	9,778	9,801	8,886
Engineering, total .....	2,666	3,021	3,154	3,253	3,491	3,480	3,513	3,143	3,063	2,592
Aeronautical/astronautical .....	94	102	120	105	116	107	111	110	84	91
Chemical .....	300	332	399	389	423	408	472	431	419	323
Civil .....	345	393	408	439	474	440	462	388	368	304
Electrical .....	710	822	847	868	1,000	1,000	970	898	875	761
Industrial .....	92	112	138	141	139	172	145	135	138	121
Materials/metallurgical .....	234	270	267	288	312	337	312	287	276	229
Mechanical .....	534	555	612	641	638	617	583	530	536	417
Other engineering .....	357	435	363	382	389	399	458	364	367	346
Sciences, total .....	5,102	5,905	6,321	6,501	7,051	7,023	7,302	6,635	6,738	6,294
Physical sciences, total .....	1,245	1,437	1,546	1,500	1,698	1,634	1,633	1,448	1,520	1,370
Astronomy .....	34	39	34	39	41	49	54	44	68	45
Chemistry .....	629	799	842	803	922	879	906	803	841	773
Physics .....	572	593	662	652	726	694	669	597	604	546
Other physical sciences .....	10	6	8	6	9	12	4	4	7	6
Earth, atmospheric, and ocean sciences .....	190	211	271	276	303	289	301	299	278	293
Mathematics .....	471	561	564	611	601	599	600	541	540	511
Computer sciences .....	326	403	432	432	460	497	468	421	413	401
Biological sciences .....	1,042	1,270	1,399	1,549	1,724	1,804	2,058	1,904	1,887	1,750
Agricultural sciences .....	497	491	534	496	550	535	544	474	541	510
Psychology .....	190	198	242	238	235	265	285	226	261	223
Social sciences .....	1,141	1,334	1,333	1,399	1,480	1,400	1,413	1,322	1,298	1,236
Non-S&E, total .....	2,023	2,242	2,458	2,437	2,611	2,626	2,566	2,330	2,401	2,482
Health .....	201	231	272	274	319	352	350	342	369	364
Humanities <sup>1</sup> .....	537	663	724	704	809	856	841	818	837	822
Education .....	654	677	718	723	736	720	673	573	659	699
Professional/other .....	631	671	744	736	747	698	702	597	536	597
Grand total, all fields .....	9,791	11,168	11,933	12,191	13,153	13,129	13,381	12,108	12,202	11,368

See explanatory information, if any, and SOURCE at end of table.



Table 4. Science and engineering (S&E) doctorates awarded, by major field  
and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-U.S. citizens with permanent visas										
Science and engineering, total .....	1,197	1,285	1,383	1,641	3,021	3,509	3,009	2,280	2,022	1,645
Engineering, total .....	389	388	411	469	838	956	793	593	479	399
Aeronautical/astronautical .....	8	11	8	6	20	13	18	13	13	8
Chemical .....	50	51	60	53	87	90	73	88	46	39
Civil .....	61	40	51	59	89	103	93	78	51	51
Electrical .....	108	132	122	165	265	288	221	187	166	125
Industrial .....	13	18	20	16	30	41	29	17	17	13
Materials/metallurgical .....	26	29	34	39	79	114	92	44	48	34
Mechanical .....	69	62	74	87	179	180	152	82	82	64
Other engineering .....	54	45	42	44	89	127	115	84	56	65
Sciences, total .....	808	897	972	1,172	2,183	2,553	2,216	1,687	1,543	1,246
Physical sciences, total .....	172	180	200	237	591	704	493	366	315	240
Astronomy .....	4	2	6	5	9	21	12	7	16	6
Chemistry .....	99	110	113	128	325	386	293	205	180	149
Physics .....	65	68	81	102	255	295	187	152	117	84
Other physical sciences .....	4	0	0	2	2	2	1	2	2	1
Earth, atmospheric, and ocean sciences .....	19	26	35	41	106	116	96	70	62	51
Mathematics .....	47	55	53	94	153	217	158	99	93	67
Computer sciences .....	55	63	67	84	117	132	92	91	84	71
Biological sciences .....	189	211	240	303	666	835	818	584	554	464
Agricultural sciences .....	57	56	62	49	97	106	103	83	79	51
Psychology .....	73	65	86	90	84	101	104	89	93	69
Social sciences .....	196	241	229	274	369	342	352	305	263	233
Non-S&E, total .....	501	572	597	618	726	809	758	650	682	655
Health .....	35	60	46	60	89	106	83	69	82	77
Humanities <sup>1</sup> .....	183	219	229	238	280	308	319	289	305	282
Education .....	153	174	165	177	199	218	196	165	171	180
Professional/other .....	130	119	157	143	158	177	160	127	124	116
Grand total, all fields .....	1,698	1,857	1,980	2,259	3,747	4,318	3,767	2,930	2,704	2,300

See explanatory information, if any, and SOURCE at end of table.

Table 4. Science and engineering (S&E) doctorates awarded, by major field  
and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-U.S. citizens with temporary visas										
Science and engineering, total .....	6,571	7,641	8,092	8,113	7,521	6,994	7,806	7,498	7,779	7,241
Engineering, total .....	2,277	2,633	2,743	2,784	2,653	2,524	2,720	2,550	2,584	2,193
Aeronautical/astronautical .....	86	91	112	99	96	94	93	97	71	83
Chemical .....	250	281	339	336	336	318	399	343	373	284
Civil .....	284	353	357	380	385	337	369	310	317	253
Electrical .....	602	690	725	703	735	712	749	711	709	636
Industrial .....	79	94	118	125	109	131	116	118	121	108
Materials/metallurgical .....	208	241	233	249	233	223	220	243	228	195
Mechanical .....	465	493	538	554	459	437	431	448	454	353
Other engineering .....	303	390	321	338	300	272	343	280	311	281
Sciences, total .....	4,294	5,008	5,349	5,329	4,868	4,470	5,086	4,948	5,195	5,048
Physical sciences, total .....	1,073	1,257	1,346	1,263	1,107	930	1,140	1,082	1,205	1,130
Astronomy .....	30	37	28	34	32	28	42	37	52	39
Chemistry .....	530	689	729	675	597	493	613	598	661	624
Physics .....	507	525	581	550	471	399	482	445	487	462
Other physical sciences .....	6	6	8	4	7	10	3	2	5	5
Earth, atmospheric, and ocean sciences .....	171	185	236	235	197	173	205	229	216	242
Mathematics .....	424	506	511	517	448	382	442	442	447	444
Computer sciences .....	271	340	365	346	343	365	376	330	329	330
Biological sciences .....	853	1,059	1,159	1,246	1,058	969	1,240	1,320	1,333	1,286
Agricultural sciences .....	440	435	472	447	453	429	441	391	462	459
Psychology .....	117	133	156	148	151	164	181	137	168	154
Social sciences .....	945	1,093	1,104	1,125	1,111	1,058	1,061	1,017	1,035	1,003
Non-S&E, total .....	1,522	1,670	1,861	1,819	1,885	1,817	1,808	1,680	1,719	1,827
Health .....	166	171	226	214	230	246	267	273	287	287
Humanities <sup>1</sup> .....	354	444	495	486	529	548	522	529	532	540
Education .....	501	503	553	546	537	502	477	408	488	519
Professional/other .....	501	552	587	593	589	521	542	470	412	461
Grand total, all fields .....	8,093	9,311	9,953	9,932	9,406	8,811	9,614	9,178	9,498	9,068

See explanatory information, if any, and SOURCE at end of table.

Table 4. Science and engineering (S&E) doctorates awarded, by major field and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Citizenship unknown										
Science and engineering, total .....	933	468	641	757	497	545	784	1,345	1,262	1,284
Engineering, total .....	271	107	175	217	116	142	198	235	301	271
Aeronautical/astronautical .....	16	2	19	9	4	5	10	8	20	13
Chemical .....	16	11	8	24	9	9	8	15	29	20
Civil .....	28	9	22	17	7	10	23	19	37	22
Electrical .....	75	29	39	45	39	48	63	72	83	79
Industrial .....	3	3	4	6	0	4	6	9	8	2
Materials/metallurgical .....	16	8	16	19	9	13	16	23	24	18
Mechanical .....	51	23	23	42	18	25	33	36	53	40
Other engineering .....	66	22	44	55	30	28	39	53	47	77
Sciences, total .....	662	361	466	540	381	403	586	1,110	961	1,013
Physical sciences, total .....	110	69	78	106	81	70	128	189	169	189
Astronomy .....	2	2	0	0	0	4	1	3	8	5
Chemistry .....	73	44	44	62	44	45	73	110	92	110
Physics .....	33	22	32	43	33	21	54	73	68	74
Other physical sciences .....	2	1	2	1	4	0	0	3	1	0
Earth, atmospheric, and ocean sciences .....	32	12	17	32	14	13	31	43	36	44
Mathematics .....	46	15	40	39	13	37	32	53	61	36
Computer sciences .....	31	9	15	23	17	16	31	59	38	37
Biological sciences .....	95	66	72	94	57	78	118	212	208	196
Agricultural sciences .....	47	18	18	15	9	9	20	40	32	15
Psychology .....	172	99	121	111	92	81	82	296	236	283
Social sciences .....	129	73	105	120	98	99	144	218	181	213
Non-S&E, total .....	438	325	306	404	237	329	498	946	757	866
Health .....	34	31	31	44	16	40	41	122	61	80
Humanities <sup>1</sup> .....	99	82	101	114	79	87	146	273	257	228
Education .....	222	163	107	175	108	152	233	421	346	429
Professional/other .....	83	49	67	71	34	50	78	130	93	129
Grand total, all fields .....	1,371	793	947	1,161	734	874	1,282	2,291	2,019	2,150

<sup>1</sup> Categories differ from those published by other Federal sponsors and the National Research Council in that linguistics, history of science, American studies, and archaeology are included not in humanities but in social science.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Eamed Doctorates

Table 4a. Percentage distribution of science and engineering doctorates awarded,  
by major field and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total										
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	21.4	21.7	22.0	22.4	22.2	22.6	23.2	22.4	21.7	20.6
Aeronautical/astronautical .....	.8	.9	.9	.9	.9	.9	1.1	1.0	.9	.8
Chemical .....	2.9	2.9	2.9	2.9	2.8	2.7	2.9	2.8	2.8	2.6
Civil .....	2.4	2.4	2.4	2.5	2.6	2.5	2.6	2.4	2.4	2.3
Electrical .....	5.6	5.8	6.0	6.1	6.4	6.5	6.4	6.3	5.8	5.7
Industrial .....	.7	.7	.8	.9	.9	1.1	.9	.9	.8	.8
Materials/metallurgical .....	1.9	2.0	2.0	2.1	2.1	2.2	2.1	2.1	2.1	1.8
Mechanical .....	3.9	3.6	4.0	4.0	3.9	3.9	3.9	3.7	3.7	3.3
Other engineering .....	3.2	3.4	3.0	3.0	2.8	2.9	3.3	3.1	3.1	3.3
Sciences, total .....	78.6	78.3	78.0	77.6	77.8	77.4	76.8	77.6	78.3	79.4
Physical sciences, total .....	15.4	15.1	15.3	14.5	15.2	14.5	14.1	13.8	14.0	13.8
Astronomy .....	.6	.5	.5	.6	.5	.7	.7	.7	.8	.6
Chemistry .....	9.2	9.1	9.0	8.4	8.6	8.1	7.9	7.9	8.1	8.2
Physics .....	5.5	5.4	5.7	5.5	5.9	5.6	5.5	5.1	5.0	4.9
Other physical sciences .....	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1
Earth, atmospheric, and ocean sciences .....	3.2	3.4	3.2	3.0	3.1	2.9	2.9	3.2	3.0	3.1
Mathematics .....	3.9	4.3	4.3	4.5	4.3	4.5	4.1	4.1	4.3	4.2
Computer sciences .....	3.1	3.3	3.5	3.5	3.4	3.8	3.4	3.3	3.4	3.3
Biological sciences .....	18.9	19.4	19.4	20.0	19.9	20.3	21.0	21.2	21.4	21.6
Agricultural sciences .....	5.1	4.5	4.3	3.8	4.1	3.9	3.8	3.6	3.8	3.7
Psychology .....	14.3	13.5	13.2	13.4	12.9	12.9	12.8	13.1	13.5	14.1
Social sciences .....	14.6	14.8	14.6	14.8	14.9	14.6	14.7	15.1	14.9	15.6
Citizenship known										
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	21.1	21.7	21.9	22.2	22.2	22.6	23.1	22.7	21.6	20.5
Aeronautical/astronautical .....	.8	.9	.9	.9	.9	1.0	1.0	1.0	.9	.8
Chemical .....	2.9	2.9	3.0	2.9	2.8	2.7	3.0	2.9	2.9	2.7
Civil .....	2.4	2.4	2.4	2.5	2.6	2.5	2.5	2.5	2.4	2.3
Electrical .....	5.5	5.8	6.0	6.1	6.4	6.5	6.3	6.4	5.8	5.7
Industrial .....	.7	.7	.8	.9	.9	1.1	1.0	.9	.9	.8
Materials/metallurgical .....	1.9	2.0	2.0	2.1	2.1	2.2	2.1	2.2	2.1	1.8
Mechanical .....	3.8	3.6	4.0	4.0	3.9	3.8	3.9	3.8	3.7	3.3
Other engineering .....	3.1	3.3	2.9	2.9	2.7	2.8	3.3	3.1	3.1	3.2
Sciences, total .....	78.9	78.3	78.1	77.8	77.8	77.4	76.9	77.3	78.4	79.5
Physical sciences, total .....	15.6	15.1	15.4	14.6	15.2	14.5	14.0	13.8	14.1	13.8
Astronomy .....	.6	.5	.6	.6	.6	.7	.7	.8	.8	.6
Chemistry .....	9.2	9.1	9.0	8.4	8.6	8.1	7.8	7.9	8.2	8.2
Physics .....	5.6	5.4	5.7	5.5	5.9	5.6	5.4	5.1	5.0	4.9
Other physical sciences .....	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1
Earth, atmospheric, and ocean sciences .....	3.2	3.4	3.2	3.0	3.2	3.0	2.9	3.2	3.0	3.1
Mathematics .....	3.9	4.3	4.2	4.5	4.3	4.4	4.1	4.1	4.3	4.3
Computer sciences .....	3.1	3.4	3.6	3.5	3.4	3.8	3.4	3.3	3.4	3.3
Biological sciences .....	19.3	19.5	19.7	20.2	20.0	20.4	21.2	21.5	21.7	21.9
Agricultural sciences .....	5.1	4.5	4.3	3.9	4.2	4.0	3.8	3.6	3.9	3.9
Psychology .....	14.2	13.4	13.1	13.4	12.8	12.9	12.9	12.6	13.2	13.7
Social sciences .....	14.6	14.8	14.6	14.8	14.8	14.5	14.6	15.0	14.9	15.6

See explanatory information, if any, and SOURCE at end of table.

Table 4a. Percentage distribution of science and engineering doctorates awarded,  
by major field and citizenship status of recipients: 1990-1999

Page 2 of 4

Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
U.S. citizens										
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	13.8	14.3	14.5	14.9	14.6	15.4	16.6	17.0	15.8	15.7
Aeronautical/astronautical .....	.6	.7	.7	.8	.7	.9	1.1	1.0	.9	.7
Chemical .....	2.4	2.4	2.2	2.2	1.9	1.9	2.0	2.0	2.0	2.1
Civil .....	1.3	1.2	1.1	1.1	1.3	1.3	1.4	1.5	1.5	1.6
Electrical .....	3.5	3.8	4.1	4.2	4.2	4.4	4.5	4.7	3.9	4.0
Industrial .....	.4	.3	.4	.6	.6	.7	.7	.6	.5	.5
Materials/metallurgical .....	1.3	1.4	1.4	1.5	1.4	1.5	1.6	1.7	1.6	1.4
Mechanical .....	2.1	2.0	2.4	2.3	2.4	2.5	2.8	2.8	2.7	2.5
Other engineering .....	2.2	2.4	2.2	2.2	2.0	2.2	2.6	2.7	2.7	2.8
Sciences, total .....	86.2	85.7	85.5	85.1	85.4	84.6	83.4	83.0	84.2	84.3
Physical sciences, total .....	15.3	14.5	14.8	14.0	14.5	13.8	13.3	13.2	13.2	12.8
Astronomy .....	.6	.6	.7	.7	.7	.8	.9	.9	.8	.7
Chemistry .....	9.9	9.2	9.1	8.5	8.5	8.0	7.5	7.7	7.9	7.9
Physics .....	4.7	4.6	4.9	4.7	5.2	4.9	4.9	4.5	4.3	4.1
Other physical sciences .....	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
Earth, atmospheric, and ocean sciences .....	3.6	4.0	3.5	3.1	3.3	3.1	3.0	3.3	3.1	3.0
Mathematics .....	2.6	3.2	3.1	3.3	3.3	3.6	3.1	3.3	3.5	3.4
Computer sciences .....	2.5	2.7	2.9	2.8	2.8	3.1	2.7	2.7	2.9	2.6
Biological sciences .....	22.5	22.7	22.9	23.1	22.6	22.6	22.7	22.8	23.1	23.2
Agricultural sciences .....	4.4	3.9	3.5	3.1	3.4	3.2	3.0	2.9	2.9	2.8
Psychology .....	20.6	20.2	19.9	20.6	20.1	19.9	20.0	18.9	19.6	20.0
Social sciences .....	14.6	14.7	14.9	15.1	15.3	15.4	15.6	15.9	15.9	16.5
Non-U.S. citizens										
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	34.3	33.8	33.3	33.4	33.1	33.1	32.5	32.1	31.3	29.2
Aeronautical/astronautical .....	1.2	1.1	1.3	1.1	1.1	1.0	1.0	1.1	.9	1.0
Chemical .....	3.9	3.7	4.2	4.0	4.0	3.9	4.4	4.4	4.3	3.6
Civil .....	4.4	4.4	4.3	4.5	4.5	4.2	4.3	4.0	3.8	3.4
Electrical .....	9.1	9.2	8.9	8.9	9.5	9.5	9.0	9.2	8.9	8.6
Industrial .....	1.2	1.3	1.5	1.4	1.3	1.6	1.3	1.4	1.4	1.4
Materials/metallurgical .....	3.0	3.0	2.8	3.0	3.0	3.2	2.9	2.9	2.8	2.6
Mechanical .....	6.9	6.2	6.5	6.6	6.1	5.9	5.4	5.4	5.5	4.7
Other engineering .....	4.6	4.9	3.8	3.9	3.7	3.8	4.2	3.7	3.7	3.9
Sciences, total .....	65.7	66.2	66.7	66.6	66.9	66.9	67.5	67.9	68.7	70.8
Physical sciences, total .....	16.0	16.1	16.3	15.4	16.1	15.6	15.1	14.8	15.5	15.4
Astronomy .....	.4	.4	.4	.4	.4	.5	.5	.4	.7	.5
Chemistry .....	8.1	9.0	8.9	8.2	8.7	8.4	8.4	8.2	8.6	8.7
Physics .....	7.4	6.6	7.0	6.7	6.9	6.6	6.2	6.1	6.2	6.1
Other physical sciences .....	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1
Earth, atmospheric, and ocean sciences .....	2.4	2.4	2.9	2.8	2.9	2.8	2.8	3.1	2.8	3.3
Mathematics .....	6.1	6.3	6.0	6.3	5.7	5.7	5.5	5.5	5.5	5.8
Computer sciences .....	4.2	4.5	4.6	4.4	4.4	4.7	4.3	4.3	4.2	4.5
Biological sciences .....	13.4	14.2	14.8	15.9	16.4	17.2	19.0	19.5	19.3	19.7
Agricultural sciences .....	6.4	5.5	5.6	5.1	5.2	5.1	5.0	4.8	5.5	5.7
Psychology .....	2.4	2.2	2.6	2.4	2.2	2.5	2.6	2.3	2.7	2.5
Social sciences .....	14.7	14.9	14.1	14.3	14.0	13.3	13.1	13.5	13.2	13.9

See explanatory information, if any, and SOURCE at end of table.

Table 4a. Percentage distribution of science and engineering doctorates awarded,  
by major-field-and-citizenship-status-of-recipients: 1990-1999

Page 3 of 4

Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Non-U.S. citizens with permanent visas										
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	32.5	30.2	29.7	28.6	27.7	27.2	26.4	26.0	23.7	24.3
Aeronautical/astronautical .....	.7	.9	.6	.4	.7	.4	.6	.6	.6	.5
Chemical .....	4.2	4.0	4.3	3.2	2.9	2.6	2.4	3.9	2.3	2.4
Civil .....	5.1	3.1	3.7	3.6	2.9	2.9	3.1	3.4	2.5	3.1
Electrical .....	9.0	10.3	8.8	10.1	8.8	8.2	7.3	8.2	8.2	7.6
Industrial .....	1.1	1.4	1.4	1.0	1.0	1.2	1.0	.7	.8	.8
Materials/metallurgical .....	2.2	2.3	2.5	2.4	2.6	3.2	3.1	1.9	2.4	2.1
Mechanical .....	5.8	4.8	5.4	5.3	5.9	5.1	5.1	3.6	4.1	3.9
Other engineering .....	4.5	3.5	3.0	2.7	2.9	3.6	3.8	3.7	2.8	4.0
Sciences, total .....	67.5	69.8	70.3	71.4	72.3	72.8	73.6	74.0	76.3	75.7
Physical sciences, total .....	14.4	14.0	14.5	14.4	19.6	20.1	16.4	16.1	15.6	14.6
Astronomy .....	.3	.2	.4	.3	.3	.6	.4	.3	.8	.4
Chemistry .....	8.3	8.6	8.2	7.8	10.8	11.0	9.7	9.0	8.9	9.1
Physics .....	5.4	5.3	5.9	6.2	8.4	8.4	6.2	6.7	5.8	5.1
Other physical sciences .....	.3	.0	.0	.1	.1	.1	.0	.1	.1	.1
Earth, atmospheric, and ocean sciences .....	1.6	2.0	2.5	2.5	3.5	3.3	3.2	3.1	3.1	3.1
Mathematics .....	3.9	4.3	3.8	5.7	5.1	6.2	5.3	4.3	4.6	4.1
Computer sciences .....	4.6	4.9	4.8	5.1	3.9	3.8	3.1	4.0	4.2	4.3
Biological sciences .....	15.8	16.4	17.4	18.5	22.0	23.8	27.2	25.6	27.4	28.2
Agricultural sciences .....	4.8	4.4	4.5	3.0	3.2	3.0	3.4	3.6	3.9	3.1
Psychology .....	6.1	5.1	6.2	5.5	2.8	2.9	3.5	3.9	4.6	4.2
Social sciences .....	16.4	18.8	16.6	16.7	12.2	9.7	11.7	13.4	13.0	14.2
Non-U.S. citizens with temporary visas										
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	34.7	34.5	33.9	34.3	35.3	36.1	34.8	34.0	33.2	30.3
Aeronautical/astronautical .....	1.3	1.2	1.4	1.2	1.3	1.3	1.2	1.3	.9	1.1
Chemical .....	3.8	3.7	4.2	4.1	4.5	4.5	5.1	4.6	4.8	3.9
Civil .....	4.3	4.6	4.4	4.7	5.1	4.8	4.7	4.1	4.1	3.5
Electrical .....	9.2	9.0	9.0	8.7	9.8	10.2	9.6	9.5	9.1	8.8
Industrial .....	1.2	1.2	1.5	1.5	1.4	1.9	1.5	1.6	1.6	1.5
Materials/metallurgical .....	3.2	3.2	2.9	3.1	3.1	3.2	2.8	3.2	2.9	2.7
Mechanical .....	7.1	6.5	6.6	6.8	6.1	6.2	5.5	6.0	5.8	4.9
Other engineering .....	4.6	5.1	4.0	4.2	4.0	3.9	4.4	3.7	4.0	3.9
Sciences, total .....	65.3	65.5	66.1	65.7	64.7	63.9	65.2	66.0	66.8	69.7
Physical sciences, total .....	16.3	16.5	16.6	15.6	14.7	13.3	14.6	14.4	15.5	15.6
Astronomy .....	.5	.5	.3	.4	.4	.4	.5	.5	.7	.5
Chemistry .....	8.1	9.0	9.0	8.3	7.9	7.0	7.9	8.0	8.5	8.6
Physics .....	7.7	6.9	7.2	6.8	6.3	5.7	6.2	5.9	6.3	6.4
Other physical sciences .....	.1	.1	.1	.0	.1	.1	.0	.0	.1	.1
Earth, atmospheric, and ocean sciences .....	2.6	2.4	2.9	2.9	2.6	2.5	2.6	3.1	2.8	3.3
Mathematics .....	6.5	6.6	6.3	6.4	6.0	5.5	5.7	5.9	5.7	6.1
Computer sciences .....	4.1	4.4	4.5	4.3	4.6	5.2	4.8	4.4	4.2	4.6
Biological sciences .....	13.0	13.9	14.3	15.4	14.1	13.9	15.9	17.6	17.1	17.8
Agricultural sciences .....	6.7	5.7	5.8	5.5	6.0	6.1	5.6	5.2	5.9	6.3
Psychology .....	1.8	1.7	1.9	1.8	2.0	2.3	2.3	1.8	2.2	2.1
Social sciences .....	14.4	14.3	13.6	13.9	14.8	15.1	13.6	13.6	13.3	13.9

See explanatory information, if any, and SOURCE at end of table.

Table 4a. Percentage distribution of science and engineering doctorates awarded,  
by major field and citizenship status of recipients: 1990-1999

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Field of study	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	Citizenship unknown									
Science and engineering, total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering, total .....	29.0	22.9	27.3	28.7	23.3	26.1	25.3	17.5	23.9	21.1
Aeronautical/astronautical .....	1.7	.4	3.0	1.2	.8	.9	1.3	.6	1.6	1.0
Chemical .....	1.7	2.4	1.2	3.2	1.8	1.7	1.0	1.1	2.3	1.6
Civil .....	3.0	1.9	3.4	2.2	1.4	1.8	2.9	1.4	2.9	1.7
Electrical .....	8.0	6.2	6.1	5.9	7.8	8.8	8.0	5.4	6.6	6.2
Industrial .....	.3	.6	.6	.8	.0	.7	.8	.7	.6	.2
Materials/metallurgical .....	1.7	1.7	2.5	2.5	1.8	2.4	2.0	1.7	1.9	1.4
Mechanical .....	5.5	4.9	3.6	5.5	3.6	4.6	4.2	2.7	4.2	3.1
Other engineering .....	7.1	4.7	6.9	7.3	6.0	5.1	5.0	3.9	3.7	6.0
Sciences, total .....	71.0	77.1	72.7	71.3	76.7	73.9	74.7	82.5	76.1	78.9
Physical sciences, total .....	11.8	14.7	12.2	14.0	16.3	12.8	16.3	14.1	13.4	14.7
Astronomy .....	.2	.4	.0	.0	.0	.7	.1	.2	.6	.4
Chemistry .....	7.8	9.4	6.9	8.2	8.9	8.3	9.3	8.2	7.3	8.6
Physics .....	3.5	4.7	5.0	5.7	6.6	3.9	6.9	5.4	5.4	5.8
Other physical sciences .....	.2	.2	.3	.1	.8	.0	.0	.2	.1	.0
Earth, atmospheric, and ocean sciences .....	3.4	2.6	2.7	4.2	2.8	2.4	4.0	3.2	2.9	3.4
Mathematics .....	4.9	3.2	6.2	5.2	2.6	6.8	4.1	3.9	4.8	2.8
Computer sciences .....	3.3	1.9	2.3	3.0	3.4	2.9	4.0	4.4	3.0	2.9
Biological sciences .....	10.2	14.1	11.2	12.4	11.5	14.3	15.1	15.8	16.5	15.3
Agricultural sciences .....	5.0	3.8	2.8	2.0	1.8	1.7	2.6	3.0	2.5	1.2
Psychology .....	18.4	21.2	18.9	14.7	18.5	14.9	10.5	22.0	18.7	22.0
Social sciences .....	13.8	15.6	16.4	15.9	19.7	18.2	18.4	16.2	14.3	16.6

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Eamed Doctorates



Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

Page 1 of 9

Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total non-U.S. citizens, S&E										
Total foreign citizenship .....	7,768	8,926	9,475	9,754	10,542	10,503	10,815	9,778	9,801	8,886
North America, total .....	446	525	515	506	547	505	530	462	545	531
Canada .....	253	297	304	285	275	274	276	249	278	283
Caribbean .....	36	54	44	38	61	60	51	46	61	50
Central America .....	53	46	52	44	69	43	45	35	42	39
Mexico .....	104	128	115	139	142	128	158	132	164	159
South America, total .....	343	387	394	394	408	359	454	386	413	419
Argentina .....	65	62	86	53	56	49	66	67	72	52
Brazil .....	100	119	133	151	157	137	204	143	152	156
Chile .....	50	54	48	52	42	38	36	29	24	34
Colombia .....	40	49	37	35	48	45	42	38	26	45
South America, other .....	88	103	90	103	105	90	106	109	139	132
Europe, total .....	801	972	950	1,104	1,150	1,254	1,260	1,276	1,479	1,456
Belgium .....	31	43	42	24	21	32	25	17	17	21
England, United Kingdom .....	100	132	137	154	128	132	117	89	125	140
France .....	65	67	77	93	96	83	68	73	76	78
Germany .....	123	118	124	164	196	208	170	178	205	179
Europe, other .....	482	612	570	669	709	799	860	919	1,056	1,038
East Asia, total .....	3,604	4,486	4,865	5,010	5,484	5,487	5,597	4,556	4,537	4,075
Taiwan .....	1,012	1,127	1,242	1,213	1,301	1,240	1,149	1,023	891	734
China, People's Republic of .....	1,150	1,793	2,045	2,227	2,531	2,752	2,954	2,288	2,418	2,188
Hong Kong .....	94	121	109	109	95	90	110	84	83	53
Japan .....	147	125	132	132	182	155	167	149	152	156
Korea .....	979	1,114	1,127	1,123	1,150	1,005	979	848	794	739
Thailand .....	111	93	87	77	97	113	119	87	116	130
East Asia, other .....	111	113	123	129	128	132	119	77	83	75
West Asia, total .....	1,654	1,670	1,891	1,903	2,077	2,181	2,140	1,914	1,750	1,594
India .....	711	752	861	933	1,065	1,207	1,257	1,210	1,082	889
Iran .....	258	227	200	203	174	173	147	112	91	92
Iraq .....	27	24	34	17	22	14	9	7	5	5
Israel .....	79	89	87	89	109	86	84	59	58	47
Lebanon .....	45	55	62	50	73	56	53	30	37	24
Saudi Arabia .....	63	67	76	46	76	71	74	61	39	48
Turkey .....	106	100	132	136	144	166	147	160	161	186
West Asia, other .....	365	356	439	429	414	408	369	275	277	303
Pacific/Australasia, total .....	175	216	220	227	231	231	232	196	192	157
Australia .....	46	35	40	47	56	61	42	47	46	46
Indonesia .....	53	69	78	78	83	83	69	62	60	45
Pacific/Australasia, other .....	76	112	102	102	92	87	121	87	86	66
Africa, total .....	539	500	510	474	583	423	442	335	339	326
Egypt .....	160	112	101	88	104	78	89	70	84	60
Nigeria .....	83	83	68	55	60	53	39	23	34	34
Africa, other .....	296	305	341	331	419	292	314	242	221	232
Country unknown .....	206	170	130	136	62	63	160	653	546	328

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total non-U.S. citizens, engineering										
Total foreign citizenship .....	2,666	3,021	3,154	3,253	3,491	3,480	3,513	3,143	3,063	2,592
North America, total .....	84	84	73	82	90	82	96	81	92	109
Canada .....	41	54	46	42	36	41	45	44	35	51
Caribbean .....	7	3	5	4	14	7	8	12	15	12
Central America .....	11	5	6	9	10	8	6	2	6	5
Mexico .....	25	22	16	27	30	26	37	23	36	41
South America, total .....	84	86	87	97	111	88	117	91	97	91
Argentina .....	12	12	14	10	7	7	8	14	13	8
Brazil .....	31	34	31	46	49	46	65	42	47	40
Chile .....	11	8	10	5	8	8	8	1	1	6
Colombia .....	8	11	9	8	12	10	7	4	7	7
South America, other .....	22	21	23	28	35	17	29	30	29	30
Europe, total .....	205	200	202	244	257	297	236	233	295	272
Belgium .....	12	9	10	7	7	12	4	4	3	1
England, United Kingdom .....	14	14	17	18	14	20	10	12	12	13
France .....	27	19	25	32	32	24	25	11	23	23
Germany .....	15	8	18	23	29	37	16	27	29	36
Europe, other .....	137	150	132	164	175	204	181	179	228	199
East Asia, total .....	1,266	1,629	1,701	1,733	1,887	1,869	1,852	1,472	1,451	1,253
Taiwan .....	476	597	637	592	670	616	572	432	378	302
China, People's Republic of .....	328	477	508	543	656	773	804	636	668	583
Hong Kong .....	30	30	37	32	14	20	31	13	26	11
Japan .....	17	29	25	23	46	30	32	37	20	30
Korea .....	360	435	437	484	429	344	323	299	282	264
Thailand .....	21	20	21	18	34	38	43	38	52	51
East Asia, other .....	34	41	36	41	38	48	47	17	25	12
West Asia, total .....	740	768	863	889	908	961	982	907	805	656
India .....	314	357	405	448	480	572	617	586	518	368
Iran .....	139	123	110	95	92	85	66	60	43	42
Iraq .....	14	11	14	6	9	8	2	5	3	5
Israel .....	22	27	26	23	17	19	20	13	12	8
Lebanon .....	35	38	37	27	45	31	21	9	18	9
Saudi Arabia .....	22	26	31	19	28	25	34	30	17	24
Turkey .....	59	64	81	74	64	73	73	95	79	95
West Asia, other .....	135	122	159	197	173	148	149	109	115	105
Pacific/Australasia, total .....	25	45	48	43	50	44	38	46	46	25
Australia .....	3	7	11	6	11	7	6	8	4	8
Indonesia .....	14	19	24	29	28	29	15	22	27	14
Pacific/Australasia, other .....	8	19	13	8	11	8	17	16	15	3
Africa, total .....	187	155	138	121	168	122	143	105	106	94
Egypt .....	82	57	46	48	63	48	59	45	60	47
Nigeria .....	23	20	11	12	6	14	11	8	7	8
Africa, other .....	82	78	81	61	99	60	73	52	39	39
Country unknown .....	75	54	42	44	20	17	49	208	171	92

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

Page 3 of 9

Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total non-U.S. citizens, sciences										
Total foreign citizenship .....	5,102	5,905	6,321	6,501	7,051	7,023	7,302	6,635	6,738	6,294
North America, total .....	362	441	442	424	457	423	434	381	453	422
Canada .....	212	243	258	243	239	233	231	205	243	232
Caribbean .....	29	51	39	34	47	53	43	34	46	38
Central America .....	42	41	46	35	59	35	39	33	36	34
Mexico .....	79	106	99	112	112	102	121	109	128	118
South America, total .....	259	301	307	297	297	271	337	295	316	328
Argentina .....	53	50	72	43	49	42	58	53	59	44
Brazil .....	69	85	102	105	108	91	139	101	105	116
Chile .....	39	46	38	47	34	30	28	28	23	28
Colombia .....	32	38	28	27	36	35	35	34	19	38
South America, other .....	66	82	67	75	70	73	77	79	110	102
Europe, total .....	596	772	748	860	893	957	1,024	1,043	1,184	1,184
Belgium .....	19	34	32	17	14	20	21	13	14	20
England, United Kingdom .....	86	118	120	136	114	112	107	77	113	127
France .....	38	48	52	61	64	59	43	62	53	55
Germany .....	108	110	106	141	167	171	154	151	176	143
Europe, other .....	345	462	438	505	534	595	699	740	828	839
East Asia, total .....	2,338	2,857	3,164	3,277	3,597	3,618	3,745	3,084	3,086	2,822
Taiwan .....	536	530	605	621	631	624	577	591	513	432
China, People's Republic of .....	822	1,316	1,537	1,684	1,875	1,979	2,150	1,652	1,750	1,605
Hong Kong .....	64	91	72	77	81	70	79	71	57	42
Japan .....	130	96	107	109	136	125	135	112	132	126
Korea .....	619	679	690	639	721	661	656	549	512	475
Thailand .....	90	73	66	59	63	75	76	49	64	79
East Asia, other .....	77	72	87	88	90	84	72	60	58	63
West Asia, total .....	914	902	1,028	1,014	1,169	1,220	1,158	1,007	945	938
India .....	397	395	456	485	585	635	640	624	564	521
Iran .....	119	104	90	108	82	86	81	52	48	50
Iraq .....	13	13	20	11	13	6	7	2	2	0
Israel .....	57	62	61	66	92	67	64	46	46	39
Lebanon .....	10	17	25	23	28	25	32	21	19	15
Saudi Arabia .....	41	41	45	27	48	46	40	31	22	24
Turkey .....	47	36	51	62	80	93	74	65	82	91
West Asia, other .....	230	234	280	232	241	260	220	166	162	198
Pacific/Australasia, total .....	150	171	172	184	181	187	194	150	146	132
Australia .....	43	28	29	41	45	54	36	39	42	38
Indonesia .....	39	50	54	49	55	54	54	40	33	31
Pacific/Australasia, other .....	68	93	89	94	81	79	104	71	71	63
Africa, total .....	352	345	372	353	415	301	299	230	233	232
Egypt .....	78	55	55	40	41	30	30	25	24	13
Nigeria .....	60	63	57	43	54	39	28	15	27	26
Africa, other .....	214	227	260	270	320	232	241	190	182	193
Country unknown .....	131	116	88	92	42	46	111	445	375	236

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Permanent visas, S&E										
Total foreign citizenship .....	1,197	1,285	1,383	1,641	3,021	3,509	3,009	2,280	2,022	1,645
North America, total .....	99	126	118	120	119	135	119	104	112	98
Canada .....	55	75	76	71	58	78	70	53	66	55
Caribbean .....	16	19	16	15	28	26	27	20	21	19
Central America .....	11	11	8	6	14	8	2	8	5	12
Mexico .....	17	21	18	28	19	23	20	23	20	12
South America, total .....	67	62	74	63	64	51	64	70	52	48
Argentina .....	11	16	17	17	13	9	17	20	8	8
Brazil .....	13	8	21	11	16	11	11	7	11	10
Chile .....	7	6	6	7	4	9	5	8	7	11
Colombia .....	11	11	9	5	13	8	10	6	5	4
South America, other .....	25	21	21	23	18	14	21	29	21	15
Europe, total .....	179	211	210	258	275	284	312	338	360	331
Belgium .....	6	8	8	8	4	7	8	8	3	6
England, United Kingdom .....	38	52	58	47	56	49	50	39	44	50
France .....	15	12	10	19	16	15	16	23	25	14
Germany .....	38	25	39	45	62	53	51	42	43	33
Europe, other .....	82	114	95	139	137	160	187	226	245	228
East Asia, total .....	323	407	486	663	2,001	2,487	1,937	1,237	1,079	747
Taiwan .....	147	160	172	155	178	165	136	148	103	78
China, People's Republic of .....	54	100	162	352	1,642	2,169	1,630	954	848	533
Hong Kong .....	12	16	28	20	20	15	18	15	14	11
Japan .....	23	20	18	20	30	19	23	24	22	27
Korea .....	70	91	83	91	99	87	93	80	71	79
Thailand .....	2	8	9	11	11	10	14	4	8	3
East Asia, other .....	15	12	14	14	21	22	23	12	13	16
West Asia, total .....	346	287	340	359	375	383	388	315	259	284
India .....	119	108	148	142	173	168	198	187	135	134
Iran .....	125	83	82	100	65	84	74	37	38	46
Iraq .....	3	3	8	4	7	5	4	1	3	3
Israel .....	11	18	15	22	41	21	17	17	17	16
Lebanon .....	18	10	6	11	12	11	11	6	7	9
Saudi Arabia .....	6	2	7	4	7	4	10	1	0	3
Turkey .....	17	11	20	18	15	19	23	21	17	22
West Asia, other .....	47	52	54	58	55	71	51	45	42	51
Pacific/Australasia, total .....	25	34	23	35	40	43	32	30	25	31
Australia .....	12	9	9	10	13	10	13	9	6	18
Indonesia .....	3	9	5	6	13	16	3	8	7	5
Pacific/Australasia, other .....	10	16	9	19	14	17	16	13	12	8
Africa, total .....	92	103	95	100	123	91	83	83	82	78
Egypt .....	14	13	9	9	12	12	11	12	12	9
Nigeria .....	30	35	34	30	33	32	17	7	15	20
Africa, other .....	48	55	52	61	78	47	55	64	55	49
Country unknown .....	66	55	37	43	24	35	74	103	53	28

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Permanent visas, engineering										
Total foreign citizenship .....	389	388	411	469	838	956	793	593	479	399
North America, total .....	20	17	13	16	14	23	15	14	17	19
Canada .....	9	14	8	9	6	9	6	7	8	10
Caribbean .....	4	0	2	2	4	3	5	4	5	5
Central America .....	3	2	2	1	2	4	0	1	0	2
Mexico .....	4	1	1	4	2	7	4	2	4	2
South America, total .....	12	12	14	8	13	7	9	12	7	6
Argentina .....	2	5	4	2	1	1	3	5	0	0
Brazil .....	2	2	2	1	2	2	3	2	2	3
Chile .....	0	0	1	0	1	1	0	0	0	2
Colombia .....	1	1	2	1	4	1	1	2	1	0
South America, other .....	7	4	5	4	5	2	2	3	4	1
Europe, total .....	31	33	33	42	49	68	58	70	69	53
Belgium .....	1	1	2	2	1	1	1	3	0	1
England, United Kingdom .....	5	3	8	4	7	9	4	4	6	6
France .....	6	4	3	4	5	3	5	3	6	4
Germany .....	4	0	5	3	11	8	6	6	4	3
Europe, other .....	15	25	15	29	25	47	42	54	53	39
East Asia, total .....	128	166	163	221	576	696	517	317	253	191
Taiwan .....	69	88	80	73	89	76	77	57	39	38
China, People's Republic of .....	19	25	39	88	426	566	380	215	182	108
Hong Kong .....	5	7	10	10	7	5	9	4	4	5
Japan .....	1	5	3	2	5	2	2	3	0	1
Korea .....	30	36	25	43	42	34	36	36	20	33
Thailand .....	0	1	2	1	1	4	3	0	5	2
East Asia, other .....	4	4	4	4	6	9	10	2	3	4
West Asia, total .....	150	118	144	151	140	119	151	121	96	99
India .....	42	44	57	56	61	55	77	65	43	38
Iran .....	61	42	44	43	28	29	29	17	19	19
Iraq .....	1	0	2	2	5	3	0	1	2	3
Israel .....	3	4	5	6	6	0	0	2	2	2
Lebanon .....	13	4	4	6	5	3	8	2	5	7
Saudi Arabia .....	2	0	1	2	3	3	3	0	0	2
Turkey .....	10	5	10	6	6	7	12	15	4	11
West Asia, other .....	18	19	21	30	26	19	22	19	21	17
Pacific/Australasia, total .....	5	5	7	6	12	9	4	7	7	6
Australia .....	0	2	4	1	4	0	2	1	0	4
Indonesia .....	3	3	2	4	7	7	0	4	6	1
Pacific/Australasia, other .....	2	0	1	1	1	2	2	2	1	1
Africa, total .....	21	25	23	14	28	28	24	22	20	21
Egypt .....	7	4	3	3	4	9	4	5	8	6
Nigeria .....	5	9	6	3	2	10	5	1	2	5
Africa, other .....	9	12	14	8	22	9	15	16	10	10
Country unknown .....	22	12	14	11	6	6	15	30	10	4

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Permanent visas, sciences										
Total foreign citizenship .....	808	897	972	1,172	2,183	2,553	2,216	1,687	1,543	1,246
North America, total .....	79	109	105	104	105	112	104	90	95	79
Canada .....	46	61	68	62	52	69	64	46	58	45
Caribbean .....	12	19	14	13	24	23	22	16	16	14
Central America .....	8	9	6	5	12	4	2	7	5	10
Mexico .....	13	20	17	24	17	16	16	21	16	10
South America, total .....	55	50	60	55	51	44	55	58	45	42
Argentina .....	9	11	13	15	12	8	14	15	8	8
Brazil .....	11	6	19	10	14	9	8	5	9	7
Chile .....	7	6	5	7	3	8	5	8	7	9
Colombia .....	10	10	7	4	9	7	9	4	4	4
South America, other .....	18	17	16	19	13	12	19	26	17	14
Europe, total .....	148	178	177	216	226	216	254	268	291	278
Belgium .....	5	7	6	6	3	6	7	5	3	5
England, United Kingdom .....	33	49	50	43	49	40	46	35	38	44
France .....	9	8	7	15	11	12	11	20	19	10
Germany .....	34	25	34	42	51	45	45	36	39	30
Europe, other .....	67	89	80	110	112	113	145	172	192	189
East Asia, total .....	195	241	323	442	1,425	1,791	1,420	920	826	556
Taiwan .....	78	72	92	82	89	89	59	91	64	40
China, People's Republic of .....	35	75	123	264	1,216	1,603	1,250	739	666	425
Hong Kong .....	7	9	18	10	13	10	9	11	10	6
Japan .....	22	15	15	18	25	17	21	21	22	26
Korea .....	40	55	58	48	57	53	57	44	51	46
Thailand .....	2	7	7	10	10	6	11	4	3	1
East Asia, other .....	11	8	10	10	15	13	13	10	10	12
West Asia, total .....	196	169	196	208	235	264	237	194	163	185
India .....	77	64	91	86	112	113	121	122	92	96
Iran .....	64	41	38	57	37	55	45	20	19	27
Iraq .....	2	3	6	2	2	2	4	0	1	0
Israel .....	8	14	10	16	35	21	17	15	15	14
Lebanon .....	5	6	2	5	7	8	3	4	2	2
Saudi Arabia .....	4	2	6	2	4	1	7	1	0	1
Turkey .....	7	6	10	12	9	12	11	6	13	11
West Asia, other .....	29	33	33	28	29	52	29	26	21	34
Pacific/Australasia, total .....	20	29	16	29	28	34	28	23	18	25
Australia .....	12	7	5	9	9	10	11	8	6	14
Indonesia .....	0	6	3	2	6	9	3	4	1	4
Pacific/Australasia, other .....	8	16	8	18	13	15	14	11	11	7
Africa, total .....	71	78	72	86	95	63	59	61	62	57
Egypt .....	7	9	6	6	8	3	7	7	4	3
Nigeria .....	25	26	28	27	31	22	12	6	13	15
Africa, other .....	39	43	38	53	56	38	40	48	45	39
Country unknown .....	44	43	23	32	18	29	59	73	43	24

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Temporary visas, S&E										
Total foreign citizenship .....	6,571	7,641	8,092	8,113	7,521	6,994	7,806	7,498	7,779	7,241
North America, total .....	347	399	397	386	428	370	411	358	433	433
Canada .....	198	222	228	214	217	196	206	196	212	228
Caribbean .....	20	35	28	23	33	34	24	26	40	31
Central America .....	42	35	44	38	55	35	43	27	37	27
Mexico .....	87	107	97	111	123	105	138	109	144	147
South America, total .....	276	325	320	331	344	308	390	316	361	371
Argentina .....	54	46	69	36	43	40	49	47	64	44
Brazil .....	87	111	112	140	141	126	193	136	141	146
Chile .....	43	48	42	45	38	29	31	21	17	23
Colombia .....	29	38	28	30	35	37	32	32	21	41
South America, other .....	63	82	69	80	87	76	85	80	118	117
Europe, total .....	622	761	740	846	875	970	948	938	1,119	1,125
Belgium .....	25	35	34	16	17	25	17	9	14	15
England, United Kingdom .....	62	80	79	107	72	83	67	50	81	90
France .....	50	55	67	74	80	68	52	50	51	64
Germany .....	85	93	85	119	134	155	119	136	162	146
Europe, other .....	400	498	475	530	572	639	693	693	811	810
East Asia, total .....	3,281	4,079	4,379	4,347	3,483	3,000	3,660	3,319	3,458	3,328
Taiwan .....	865	967	1,070	1,058	1,123	1,075	1,013	875	788	656
China, People's Republic of .....	1,096	1,693	1,883	1,875	889	583	1,324	1,334	1,570	1,655
Hong Kong .....	82	105	81	89	75	75	92	69	69	42
Japan .....	124	105	114	112	152	136	144	125	130	129
Korea .....	909	1,023	1,044	1,032	1,051	918	886	768	723	660
Thailand .....	109	85	78	66	86	103	105	63	108	127
East Asia, other .....	96	101	109	115	107	110	96	65	70	59
West Asia, total .....	1,308	1,383	1,551	1,544	1,702	1,798	1,752	1,599	1,491	1,310
India .....	592	644	713	791	892	1,039	1,059	1,023	947	755
Iran .....	133	144	118	103	109	89	73	75	53	46
Iraq .....	24	21	26	13	15	9	5	6	2	2
Israel .....	68	71	72	67	68	65	67	42	41	31
Lebanon .....	27	45	56	39	61	45	42	24	30	15
Saudi Arabia .....	57	65	69	42	69	67	64	60	39	45
Turkey .....	89	89	112	118	129	147	124	139	144	164
West Asia, other .....	318	304	385	371	359	337	318	230	235	252
Pacific/Australasia, total .....	150	182	197	192	191	188	200	166	167	126
Australia .....	34	26	31	37	43	51	29	38	40	28
Indonesia .....	50	60	73	72	70	67	66	54	53	40
Pacific/Australasia, other .....	66	96	93	83	78	70	105	74	74	58
Africa, total .....	447	397	415	374	460	332	359	252	257	248
Egypt .....	146	99	92	79	92	66	78	58	72	51
Nigeria .....	53	48	34	25	27	21	22	16	19	14
Africa, other .....	248	250	289	270	341	245	259	178	166	183
Country unknown .....	140	115	93	93	38	28	86	550	493	300

See explanatory information, if any, and SOURCE at end of table.



Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Temporary visas, engineering										
Total foreign citizenship .....	2,277	2,633	2,743	2,784	2,653	2,524	2,720	2,550	2,584	2,193
North America, total .....	64	67	60	66	76	59	81	67	75	90
Canada .....	32	40	38	33	30	32	39	37	27	41
Caribbean .....	3	3	3	2	10	4	3	8	10	7
Central America .....	8	3	4	8	8	4	6	1	6	3
Mexico .....	21	21	15	23	28	19	33	21	32	39
South America, total .....	72	74	73	89	98	81	108	79	90	85
Argentina .....	10	7	10	8	6	6	5	9	13	8
Brazil .....	29	32	29	45	47	44	62	40	45	37
Chile .....	11	8	9	5	7	7	8	1	1	4
Colombia .....	7	10	7	7	8	9	6	2	6	7
South America, other .....	15	17	18	24	30	15	27	27	25	29
Europe, total .....	174	167	169	202	208	229	178	163	226	219
Belgium .....	11	8	8	5	6	11	3	1	3	0
England, United Kingdom .....	9	11	9	14	7	11	6	8	6	7
France .....	21	15	22	28	27	21	20	8	17	19
Germany .....	11	8	13	20	18	29	10	21	25	33
Europe, other .....	122	125	117	135	150	157	139	125	175	160
East Asia, total .....	1,138	1,463	1,538	1,512	1,311	1,173	1,335	1,155	1,198	1,062
Taiwan .....	407	509	557	519	581	540	495	375	339	264
China, People's Republic of .....	309	452	469	455	230	207	424	421	486	475
Hong Kong .....	25	23	27	22	7	15	22	9	22	6
Japan .....	16	24	22	21	41	28	30	34	20	29
Korea .....	330	399	412	441	387	310	287	263	262	231
Thailand .....	21	19	19	17	33	34	40	38	47	49
East Asia, other .....	30	37	32	37	32	39	37	15	22	8
West Asia, total .....	590	650	719	738	768	842	831	786	709	557
India .....	272	313	348	392	419	517	540	521	475	330
Iran .....	78	81	66	52	64	56	37	43	24	23
Iraq .....	13	11	12	4	4	5	2	4	1	2
Israel .....	19	23	21	17	11	19	20	11	10	6
Lebanon .....	22	34	33	21	40	28	13	7	13	2
Saudi Arabia .....	20	26	30	17	25	22	31	30	17	22
Turkey .....	49	59	71	68	58	66	61	80	75	84
West Asia, other .....	117	103	138	167	147	129	127	90	94	88
Pacific/Australasia, total .....	20	40	41	37	38	35	34	39	39	19
Australia .....	3	5	7	5	7	7	4	7	4	4
Indonesia .....	11	16	22	25	21	22	15	18	21	13
Pacific/Australasia, other .....	6	19	12	7	10	6	15	14	14	2
Africa, total .....	166	130	115	107	140	94	119	83	86	73
Egypt .....	75	53	43	45	59	39	55	40	52	41
Nigeria .....	18	11	5	9	4	4	6	7	5	3
Africa, other .....	73	66	67	53	77	51	58	36	29	29
Country unknown .....	53	42	28	33	14	11	34	178	161	88

See explanatory information, if any, and SOURCE at end of table.

Table 5. Non-U.S. citizens awarded doctorates in the sciences and in engineering,  
by country of citizenship, visa type, and year of doctorate: 1990-1999

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Country of citizenship	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Temporary visas, sciences										
Total foreign citizenship .....	4,294	5,008	5,349	5,329	4,868	4,470	5,086	4,948	5,195	5,048
North America, total .....	283	332	337	320	352	311	330	291	358	343
Canada .....	166	182	190	181	187	164	167	159	185	187
Caribbean .....	17	32	25	21	23	30	21	18	30	24
Central America .....	34	32	40	30	47	31	37	26	31	24
Mexico .....	66	86	82	88	95	86	105	88	112	108
South America, total .....	204	251	247	242	246	227	282	237	271	286
Argentina .....	44	39	59	28	37	34	44	38	51	36
Brazil .....	58	79	83	95	94	82	131	96	96	109
Chile .....	32	40	33	40	31	22	23	20	16	19
Colombia .....	22	28	21	23	27	28	26	30	15	34
South America, other .....	48	65	51	56	57	61	58	53	93	88
Europe, total .....	448	594	571	644	667	741	770	775	893	906
Belgium .....	14	27	26	11	11	14	14	8	11	15
England, United Kingdom .....	53	69	70	93	65	72	61	42	75	83
France .....	29	40	45	46	53	47	32	42	34	45
Germany .....	74	85	72	99	116	126	109	115	137	113
Europe, other .....	278	373	358	395	422	482	554	568	636	650
East Asia, total .....	2,143	2,616	2,841	2,835	2,172	1,827	2,325	2,164	2,260	2,266
Taiwan .....	458	458	513	539	542	535	518	500	449	392
China, People's Republic of .....	787	1,241	1,414	1,420	659	376	900	913	1,084	1,180
Hong Kong .....	57	82	54	67	68	60	70	60	47	36
Japan .....	108	81	92	91	111	108	114	91	110	100
Korea .....	579	624	632	591	664	608	599	505	461	429
Thailand .....	88	66	59	49	53	69	65	45	61	78
East Asia, other .....	66	64	77	78	75	71	59	50	48	51
West Asia, total .....	718	733	832	806	934	956	921	813	782	753
India .....	320	331	365	399	473	522	519	502	472	425
Iran .....	55	63	52	51	45	33	36	32	29	23
Iraq .....	11	10	14	9	11	4	3	2	1	0
Israel .....	49	48	51	50	57	46	47	31	31	25
Lebanon .....	5	11	23	18	21	17	29	17	17	13
Saudi Arabia .....	37	39	39	25	44	45	33	30	22	23
Turkey .....	40	30	41	50	71	81	63	59	69	80
West Asia, other .....	201	201	247	204	212	208	191	140	141	164
Pacific/Australasia, total .....	130	142	156	155	153	153	166	127	128	107
Australia .....	31	21	24	32	36	44	25	31	36	24
Indonesia .....	39	44	51	47	49	45	51	36	32	27
Pacific/Australasia, other .....	60	77	81	76	68	64	90	60	60	56
Africa, total .....	281	267	300	267	320	238	240	169	171	175
Egypt .....	71	46	49	34	33	27	23	18	20	10
Nigeria .....	35	37	29	16	23	17	16	9	14	11
Africa, other .....	175	184	222	217	264	194	201	142	137	154
Country unknown .....	87	73	65	60	24	17	52	372	332	212

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Total, all institutions .....	-	25,953	5,337	678	585	1,477	853	1,744	3,582	1,431	2,134	17
Alabama, total .....	26	299	63	9	3	12	11	28	34	19	15	0
Alabama A&M University .....	284	7	0	0	0	0	0	0	3	3	0	0
Auburn University .....	74	116	31	5	2	5	5	14	9	3	6	0
United States Sports Academy .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Alabama .....	143	46	10	3	1	1	3	2	6	3	3	0
University of Alabama Birmingham ...	96	87	6	0	0	0	0	6	7	1	6	0
University of Alabama Huntsville .....	174	31	16	1	0	6	3	6	9	9	0	0
University of South Alabama .....	257	12	0	0	0	0	0	0	0	0	0	0
Alaska, total .....	49	23	1	0	1	0	0	0	4	3	1	0
University of Alaska Fairbanks .....	200	23	1	0	1	0	0	0	4	3	1	0
Arizona, total .....	18	445	95	7	5	32	15	36	71	32	35	4
Arizona State University Main .....	61	141	54	5	1	21	8	19	12	2	9	1
Northern Arizona University .....	231	16	0	0	0	0	0	0	0	0	0	0
University of Arizona .....	21	288	41	2	4	11	7	17	59	30	26	3
Arkansas, total .....	42	56	10	0	3	2	0	5	9	4	5	0
U of Arkansas .....	152	44	10	0	3	2	0	5	8	3	5	0
U of Arkansas Little Rock .....	324	1	0	0	0	0	0	0	1	1	0	0
U of Arkansas for Med Sciences .....	262	11	0	0	0	0	0	0	0	0	0	0
California, total .....	1	3,344	745	65	76	291	91	222	443	183	258	2
Azusa Pacific University .....	332	0	0	0	0	0	0	0	0	0	0	0
Biola University .....	277	8	0	0	0	0	0	0	0	0	0	0
CA Inst Integral Studies .....	244	14	0	0	0	0	0	0	0	0	0	0
CA Inst Technology .....	51	156	53	8	1	16	9	19	49	19	30	0
CA Sch Prof Psych Berkeley .....	125	59	0	0	0	0	0	0	0	0	0	0
CA Sch Prof Psych Fresno .....	133	51	0	0	0	0	0	0	0	0	0	0
CA Sch Prof Psych Los Angeles .....	118	63	0	0	0	0	0	0	0	0	0	0
CA Sch Prof Psych San Diego .....	112	67	0	0	0	0	0	0	0	0	0	0
Claremont Graduate University .....	162	37	0	0	0	0	0	0	0	0	0	0
Fielding Institute, The .....	129	54	0	0	0	0	0	0	0	0	0	0
Fuller Theological Seminary CA .....	177	30	0	0	0	0	0	0	0	0	0	0
Graduate Theological Union .....	332	0	0	0	0	0	0	0	0	0	0	0
Hebrew Union College CA .....	332	0	0	0	0	0	0	0	0	0	0	0
Loma Linda University .....	239	15	0	0	0	0	0	0	0	0	0	0
Loma Linda U La Sierra Campus .....	332	0	0	0	0	0	0	0	0	0	0	0
Naval Postgraduate School .....	292	6	3	0	0	1	2	0	0	0	0	0
Pacific Grad School of Psych .....	187	28	0	0	0	0	0	0	0	0	0	0
Pepperdine University Malibu .....	332	0	0	0	0	0	0	0	0	0	0	0
Rand Grad Sch of Policy Studies .....	284	7	0	0	0	0	0	0	0	0	0	0
San Diego State University .....	231	16	1	0	0	0	0	1	1	0	1	0
Santa Clara University .....	316	2	2	0	0	2	0	0	0	0	0	0
Saybrook Institute CA .....	231	16	0	0	0	0	0	0	0	0	0	0
School of Theology at Claremont .....	332	0	0	0	0	0	0	0	0	0	0	0
Scripps Research Institute, The .....	221	19	0	0	0	0	0	0	9	0	9	0
Stanford University .....	7	417	168	12	16	59	24	57	55	29	26	0
United States International U .....	272	9	0	0	0	0	0	0	0	0	0	0
U of California Berkeley .....	1	534	149	20	22	34	27	46	99	38	60	1
U of California Davis .....	23	269	53	5	8	18	9	13	31	12	19	0
U of California Irvine .....	52	153	34	3	6	15	2	8	23	6	17	0
U of California Los Angeles .....	13	367	73	6	15	34	5	13	52	23	29	0
U of California Riverside .....	107	73	0	0	0	0	0	0	10	5	5	0
U of California San Diego .....	25	251	54	0	3	24	5	22	44	27	17	0
U of California San Francisco .....	112	67	6	0	0	0	0	6	9	0	9	0
U of California Santa Barbara .....	54	150	39	6	0	18	7	8	22	9	12	1
U of California Santa Cruz .....	102	81	6	0	0	6	0	0	19	10	9	0

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agricul- tural				
Total, all institutions .....	807	1,085	850	6,565	5,600	965	3,667	4,060	15,187	41,140
Alabama, total .....	4	16	9	106	82	24	40	27	195	494
Alabama A&M University .....	0	0	0	4	0	4	0	0	0	7
Auburn University .....	0	10	2	28	10	18	19	17	62	178
United States Sports Academy .....	0	0	0	0	0	0	0	0	13	13
University of Alabama .....	2	2	4	4	4	0	9	9	87	133
University of Alabama Birmingham ..	1	1	1	58	58	0	12	1	26	113
University of Alabama Huntsville .....	1	3	2	0	0	0	0	0	0	31
University of South Alabama .....	0	0	0	12	10	2	0	0	7	19
Alaska, total .....	6	0	0	9	7	2	0	3	4	27
University of Alaska Fairbanks .....	6	0	0	9	7	2	0	3	4	27
Arizona, total .....	34	13	15	105	86	19	34	78	284	729
Arizona State University Main .....	5	3	11	14	14	0	15	27	129	270
Northern Arizona University .....	0	0	0	7	7	0	0	9	29	45
University of Arizona .....	29	10	4	84	65	19	19	42	126	414
Arkansas, total .....	0	3	1	30	17	13	3	0	65	121
U of Arkansas .....	0	3	1	19	6	13	3	0	49	93
U of Arkansas Little Rock .....	0	0	0	0	0	0	0	0	16	17
U of Arkansas for Med Sciences .....	0	0	0	11	11	0	0	0	0	11
California, total .....	119	143	114	688	656	32	566	526	1,403	4,747
Azusa Pacific University .....	0	0	0	0	0	0	0	0	4	4
Biola University .....	0	0	0	0	0	0	7	1	7	15
CA Inst Integral Studies .....	0	0	0	0	0	0	13	1	20	34
CA Inst Technology .....	13	13	1	22	22	0	0	5	0	156
CA Sch Prof Psych Berkeley .....	0	0	0	0	0	0	59	0	1	60
CA Sch Prof Psych Fresno .....	0	0	0	0	0	0	51	0	0	51
CA Sch Prof Psych Los Angeles .....	0	0	0	0	0	0	63	0	3	66
CA Sch Prof Psych San Diego .....	0	0	0	0	0	0	67	0	0	67
Claremont Graduate University .....	0	4	2	1	1	0	9	21	67	104
Fielding Institute, The .....	0	0	0	1	1	0	36	17	21	75
Fuller Theological Seminary CA .....	0	0	0	0	0	0	23	7	35	65
Graduate Theological Union .....	0	0	0	0	0	0	0	0	20	20
Hebrew Union College CA .....	0	0	0	0	0	0	0	0	1	1
Loma Linda University .....	0	0	0	12	12	0	3	0	4	19
Loma Linda U La Sierra Campus .....	0	0	0	0	0	0	0	0	1	1
Naval Postgraduate School .....	0	2	1	0	0	0	0	0	0	6
Pacific Grad School of Psych .....	0	0	0	0	0	0	28	0	0	28
Pepperdine University Malibu .....	0	0	0	0	0	0	0	0	50	50
Rand Grad Sch of Policy Studies .....	0	0	0	0	0	0	0	7	0	7
San Diego State University .....	0	0	0	7	7	0	6	1	14	30
Santa Clara University .....	0	0	0	0	0	0	0	0	0	2
Saybrook Institute CA .....	0	0	0	2	2	0	14	0	2	18
School of Theology at Claremont .....	0	0	0	0	0	0	0	0	6	6
Scripps Research Institute, The .....	0	0	0	10	10	0	0	0	0	19
Stanford University .....	27	14	20	65	65	0	12	56	134	551
United States International U .....	0	0	0	0	0	0	9	0	16	25
U of California Berkeley .....	14	36	23	91	84	7	16	106	183	717
U of California Davis .....	7	10	2	132	118	14	17	17	43	312
U of California Irvine .....	2	5	12	37	37	0	14	26	46	199
U of California Los Angeles .....	11	21	13	82	82	0	28	87	221	588
U of California Riverside .....	3	9	2	32	22	10	4	13	30	103
U of California San Diego .....	19	11	10	67	67	0	14	32	31	282
U of California San Francisco .....	0	0	0	48	48	0	0	4	13	80
U of California Santa Barbara .....	10	6	3	23	23	0	15	32	77	227
U of California Santa Cruz .....	7	6	5	15	14	1	3	20	16	97

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
California, continued:												
University of La Verne .....	332	0	0	0	0	0	0	0	0	0	0	0
University of the Pacific .....	332	0	0	0	0	0	0	0	0	0	0	0
University of San Diego .....	332	0	0	0	0	0	0	0	0	0	0	0
University of San Francisco .....	292	6	0	0	0	0	0	0	0	0	0	0
University of Southern CA .....	20	289	104	5	5	64	1	29	20	5	15	0
Wright Institute, All Campuses .....	177	30	0	0	0	0	0	0	0	0	0	0
Colorado, total .....	16	565	135	23	36	28	11	37	67	26	41	0
Colorado School of Mines .....	143	46	21	6	1	0	0	14	6	5	1	0
Colorado State University .....	49	168	32	2	14	6	5	5	20	3	17	0
University of Colorado Health Science Center .....	177	30	0	0	0	0	0	0	1	0	1	0
University of Colorado Boulder .....	24	252	80	15	21	20	6	18	40	18	22	0
University of Colorado at Colorado Springs .....	316	2	2	0	0	2	0	0	0	0	0	0
University of Colorado at Denver .....	227	17	0	0	0	0	0	0	0	0	0	0
University of Denver .....	184	29	0	0	0	0	0	0	0	0	0	0
University of Northern Colorado .....	214	21	0	0	0	0	0	0	0	0	0	0
Connecticut, total .....	22	369	34	7	2	15	4	6	73	23	50	0
University of Connecticut .....	57	146	24	3	2	11	3	5	26	5	21	0
University of New Haven .....	332	0	0	0	0	0	0	0	0	0	0	0
Wesleyan University .....	257	12	0	0	0	0	0	0	4	0	4	0
Yale University .....	35	211	10	4	0	4	1	1	43	18	25	0
Delaware, total .....	36	121	41	16	6	8	10	1	14	4	10	0
University of Delaware .....	69	121	41	16	6	8	10	1	14	4	10	0
Wilmington College .....	332	0	0	0	0	0	0	0	0	0	0	0
District of Columbia, total .....	25	302	23	0	0	13	2	8	34	3	31	0
American University .....	143	46	0	0	0	0	0	0	7	0	7	0
Catholic University of America .....	196	26	6	0	0	3	2	1	3	1	2	0
Gallaudet University .....	316	2	0	0	0	0	0	0	0	0	0	0
George Washington University .....	88	96	14	0	0	7	0	7	8	2	6	0
Georgetown University .....	110	71	0	0	0	0	0	0	8	0	8	0
Howard University .....	121	61	3	0	0	3	0	0	8	0	8	0
Florida, total .....	9	899	188	16	23	68	21	60	107	39	68	0
Barry University .....	324	1	0	0	0	0	0	0	0	0	0	0
Carlos Albizu University .....	128	55	0	0	0	0	0	0	0	0	0	0
FL Agricultural and Mechanical U .....	308	3	0	0	0	0	0	0	0	0	0	0
Florida Atlantic University .....	205	22	9	0	0	4	3	2	0	0	0	0
Florida Institute of Technology .....	191	27	16	0	1	13	0	2	3	1	2	0
Florida International University .....	227	17	3	0	0	2	1	0	0	0	0	0
Florida State University .....	75	113	8	3	0	1	3	1	29	14	15	0
Nova Southeastern University .....	85	101	0	0	0	0	0	0	0	0	0	0
University of Central Florida .....	133	51	30	0	5	12	2	11	11	11	0	0
University of Florida .....	16	336	89	12	14	23	6	34	43	9	34	0
University of Miami .....	94	89	12	0	0	6	3	3	13	4	9	0
University of Sarasota .....	332	0	0	0	0	0	0	0	0	0	0	0
University of South Florida .....	99	84	21	1	3	7	3	7	8	0	8	0
Georgia, total .....	14	600	166	19	14	57	24	52	81	20	61	0
Clark Atlanta University .....	231	16	0	0	0	0	0	0	1	0	1	0
Emory University .....	96	87	0	0	0	0	0	0	15	2	13	0
Georgia Inst of Tech .....	32	222	162	18	14	57	24	49	23	10	13	0
Georgia Southern University .....	332	0	0	0	0	0	0	0	0	0	0	0
Georgia State University .....	120	62	0	0	0	0	0	0	16	4	12	0
Inst of Paper Science & Tech .....	292	6	3	1	0	0	0	2	0	0	0	0
Medical College of Georgia .....	268	10	0	0	0	0	0	0	0	0	0	0
Mercer University .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Georgia .....	38	197	1	0	0	0	0	1	26	4	22	0
Hawaii, total .....	38	121	3	0	0	0	2	1	8	5	3	0
University of Hawaii at Manoa .....	69	121	3	0	0	0	2	1	8	5	3	0
Idaho, total .....	45	44	8	0	1	0	0	7	5	0	5	0
Idaho State University .....	262	11	1	0	0	0	0	1	1	0	1	0
University of Idaho .....	170	33	7	0	1	0	0	6	4	0	4	0

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agri- cul- tural				
California, continued:										
University of La Verne .....	0	0	0	0	0	0	0	0	43	43
University of the Pacific .....	0	0	0	0	0	0	0	0	20	20
University of San Diego .....	0	0	0	0	0	0	0	0	19	19
University of San Francisco .....	0	0	0	0	0	0	4	2	79	85
University of Southern CA .....	6	6	20	41	41	0	21	71	176	465
Wright Institute, All Campuses .....	0	0	0	0	0	0	30	0	0	30
Colorado, total .....	33	34	16	132	107	25	68	80	189	754
Colorado School of Mines .....	5	3	1	0	0	0	0	10	3	49
Colorado State University .....	10	10	2	67	42	25	14	13	20	188
University of Colorado Health Science Center .....	0	0	0	29	29	0	0	0	9	39
University of Colorado Boulder .....	17	13	13	34	34	0	23	32	50	302
University of Colorado at Colorado Springs .....	0	0	0	0	0	0	0	0	0	2
University of Colorado at Denver .....	0	5	0	0	0	0	0	12	21	38
University of Denver .....	0	1	0	2	2	0	14	12	36	65
University of Northern Colorado .....	1	2	0	0	0	0	17	1	50	71
Connecticut, total .....	13	15	3	117	111	6	30	84	205	574
University of Connecticut .....	4	5	3	42	37	5	20	22	81	227
University of New Haven .....	0	0	0	0	0	0	0	0	1	1
Wesleyan University .....	0	4	0	4	4	0	0	0	1	13
Yale University .....	9	6	0	71	70	1	10	62	122	333
Delaware, total .....	5	7	3	16	13	3	12	23	45	166
University of Delaware .....	5	7	3	16	13	3	12	23	23	144
Wilmington College .....	0	0	0	0	0	0	0	0	22	22
District of Columbia, total .....	2	2	19	54	54	0	55	113	222	524
American University .....	0	1	0	1	1	0	11	26	15	61
Catholic University of America .....	0	0	0	1	1	0	10	6	73	99
Gallaudet University .....	0	0	0	0	0	0	2	0	5	7
George Washington University .....	1	1	19	15	15	0	13	25	78	174
Georgetown University .....	0	0	0	21	21	0	2	40	26	97
Howard University .....	1	0	0	16	16	0	17	16	25	86
Florida, total .....	23	19	57	172	136	36	227	106	1,045	1,944
Barry University .....	0	0	0	0	0	0	1	0	18	19
Carlos Albizu University .....	0	0	0	0	0	0	55	0	0	55
FL Agricultural and Mechanical U .....	0	0	0	3	3	0	0	0	2	5
Florida Atlantic University .....	0	1	0	1	1	0	5	6	16	38
Florida Institute of Technology .....	3	1	2	2	2	0	0	0	0	27
Florida International University .....	0	0	2	3	3	0	6	3	29	46
Florida State University .....	10	4	2	7	7	0	22	31	164	277
Nova Southeastern University .....	1	0	28	1	0	1	66	5	472	573
University of Central Florida .....	0	2	4	0	0	0	4	0	38	89
University of Florida .....	2	8	11	113	80	33	28	42	111	447
University of Miami .....	4	2	0	26	24	2	20	12	44	133
University of Sarasota .....	0	0	0	0	0	0	0	0	87	87
University of South Florida .....	3	1	8	16	16	0	20	7	64	148
Georgia, total .....	6	14	10	143	123	20	97	83	335	935
Clark Atlanta University .....	0	0	0	1	1	0	1	13	16	32
Emory University .....	0	4	0	36	36	0	10	22	45	132
Georgia Inst of Tech .....	4	4	10	6	6	0	11	2	6	228
Georgia Southern University .....	0	0	0	0	0	0	0	0	8	8
Georgia State University .....	0	0	0	11	11	0	27	8	88	150
Inst of Paper Science & Tech .....	0	0	0	3	0	3	0	0	0	6
Medical College of Georgia .....	0	0	0	10	10	0	0	0	3	13
Mercer University .....	0	0	0	0	0	0	0	0	1	1
University of Georgia .....	2	6	0	76	59	17	48	38	168	365
Hawaii, total .....	14	3	2	32	26	6	6	53	39	160
University of Hawaii at Manoa .....	14	3	2	32	26	6	6	53	39	160
Idaho, total .....	3	3	0	21	11	10	1	3	36	80
Idaho State University .....	0	3	0	4	4	0	1	1	10	21
University of Idaho .....	3	0	0	17	7	10	0	2	26	59

See explanatory information, if any, and SOURCE at end of table.



Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Illinois, total .....	5	1,313	273	33	45	79	46	70	170	76	94	0
De Paul University .....	231	16	0	0	0	0	0	0	0	0	0	0
Finch U Hlth Sci/Chgo Med Sch .....	200	23	0	0	0	0	0	0	1	1	0	0
Illinois Institute Technology .....	112	67	31	6	7	9	2	7	4	3	1	0
Illinois State University .....	272	9	0	0	0	0	0	0	0	0	0	0
Inst for Clinical Social Work .....	324	1	0	0	0	0	0	0	0	0	0	0
Loyola University of Chicago .....	139	49	0	0	0	0	0	0	1	0	1	0
Lutheran Sch Theology at Chicago .....	332	0	0	0	0	0	0	0	0	0	0	0
Northern Illinois University .....	152	44	0	0	0	0	0	0	4	0	4	0
Northwestern University .....	29	228	79	11	13	12	12	31	29	7	22	0
Roosevelt University .....	332	0	0	0	0	0	0	0	0	0	0	0
Rush University .....	300	4	0	0	0	0	0	0	1	1	0	0
Southern Illinois U Carbondale .....	143	46	3	0	0	1	0	2	7	1	6	0
Southern Illinois U Edwardsville .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Chicago .....	30	224	1	0	0	0	0	1	37	21	16	0
U of Illinois Chicago .....	63	137	29	1	4	7	14	3	20	6	14	0
U of Illinois Urbana-Champaign .....	3	465	130	15	21	50	18	26	66	36	30	0
Indiana, total .....	12	670	155	16	31	46	23	39	108	37	71	0
Ball State University .....	248	13	0	0	0	0	0	0	0	0	0	0
Indiana State University .....	284	7	0	0	0	0	0	0	0	0	0	0
Indiana U Bloomington .....	43	183	0	0	0	0	0	0	28	12	16	0
Indiana U Purdue U Indianapolis .....	332	0	0	0	0	0	0	0	0	0	0	0
Purdue University .....	12	368	136	8	28	42	20	38	58	11	47	0
University of Notre Dame .....	87	99	19	8	3	4	3	1	22	14	8	0
Iowa, total .....	21	372	80	10	14	16	16	24	67	21	46	0
Drake University .....	332	0	0	0	0	0	0	0	0	0	0	0
Iowa State University .....	34	217	47	8	6	11	8	14	43	9	34	0
Maharishi U of Management .....	308	3	0	0	0	0	0	0	0	0	0	0
University of Iowa .....	54	150	31	2	8	5	8	8	24	12	12	0
University of Northern Iowa .....	316	2	2	0	0	0	0	2	0	0	0	0
Kansas, total .....	29	256	40	4	7	11	10	8	43	15	28	0
Kansas State University .....	94	89	9	1	2	0	2	4	13	6	7	0
University of Kansas .....	57	146	19	3	5	6	4	1	29	9	20	0
Wichita State University .....	214	21	12	0	0	5	4	3	1	0	1	0
Kentucky, total .....	34	166	25	6	1	3	6	9	11	2	9	0
Southern Baptist Theological Sem .....	332	0	0	0	0	0	0	0	0	0	0	0
Spalding University .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Kentucky .....	72	120	16	4	1	1	6	4	7	2	5	0
University of Louisville .....	143	46	9	2	0	2	0	5	4	0	4	0
Louisiana, total .....	24	309	62	18	6	9	9	20	28	11	17	0
Grambling State University .....	332	0	0	0	0	0	0	0	0	0	0	0
LA St U & A&M College .....	53	152	26	8	5	4	3	6	19	9	10	0
LA St U Shreveport .....	248	13	0	0	0	0	0	0	0	0	0	0
LA St U Medical Center .....	284	7	0	0	0	0	0	0	0	0	0	0
Louisiana Tech University .....	244	14	13	1	0	0	2	10	0	0	0	0
New Orleans Baptist Theol Sem .....	332	0	0	0	0	0	0	0	0	0	0	0
Univ of Louisiana at Monroe .....	308	3	0	0	0	0	0	0	0	0	0	0
Southern U A&M Col Baton Rouge .....	332	0	0	0	0	0	0	0	0	0	0	0
Tulane University .....	101	82	19	9	1	2	3	4	5	2	3	0
University of New Orleans .....	231	16	1	0	0	0	1	0	4	0	4	0
Univ of Louisiana at Lafayette .....	205	22	3	0	0	3	0	0	0	0	0	0
Maine, total .....	48	27	6	3	0	0	0	3	4	3	1	0
University of Maine .....	191	27	6	3	0	0	0	3	4	3	1	0

See explanatory information, if any, and SOURCE at end of table.



Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agri- cultural				
Illinois, total .....	20	64	57	261	229	32	194	274	888	2,201
De Paul University .....	0	0	2	0	0	0	14	0	8	24
Finch U Hlth Sci/Chgo Med Sch .....	0	0	0	14	14	0	8	0	0	23
Illinois Institute Technology .....	0	0	17	2	2	0	13	0	2	69
Illinois State University .....	0	1	0	3	3	0	5	0	36	45
Inst for Clinical Social Work .....	0	0	0	0	0	0	1	0	4	5
Loyola University of Chicago .....	0	0	0	16	16	0	26	6	147	196
Lutheran Sch Theology at Chicago ...	0	0	0	0	0	0	0	0	9	9
Northern Illinois University .....	2	2	2	5	5	0	16	13	72	116
Northwestern University .....	3	8	4	34	34	0	26	45	81	309
Roosevelt University .....	0	0	0	0	0	0	0	0	19	19
Rush University .....	0	0	0	3	3	0	0	0	9	13
Southern Illinois U Carbondale .....	0	1	0	11	11	0	16	8	75	121
Southern Illinois U Edwardsville .....	0	0	0	0	0	0	0	0	5	5
University of Chicago .....	4	20	5	38	38	0	15	104	160	384
U of Illinois Chicago .....	2	13	3	41	41	0	9	20	83	220
U of Illinois Urbana-Champaign .....	9	19	24	94	62	32	45	78	178	643
Indiana, total .....	20	36	10	166	133	33	69	106	387	1,057
Ball State University .....	0	0	0	0	0	0	12	1	25	38
Indiana State University .....	1	0	0	2	2	0	4	0	10	17
Indiana U Bloomington .....	12	11	5	62	62	0	9	56	208	391
Indiana U Purdue U Indianapolis .....	0	0	0	0	0	0	0	0	8	8
Purdue University .....	6	19	5	86	53	33	31	27	100	468
University of Notre Dame .....	1	6	0	16	16	0	13	22	38	135
Iowa, total .....	4	19	11	114	81	33	30	47	211	583
Drake University .....	0	0	0	0	0	0	0	0	5	5
Iowa State University .....	4	7	3	72	39	33	10	31	40	257
Maharishi U of Management .....	0	0	0	1	1	0	2	0	1	4
University of Iowa .....	0	12	8	41	41	0	18	16	160	310
University of Northern Iowa .....	0	0	0	0	0	0	0	0	5	7
Kansas, total .....	6	7	3	72	44	28	58	27	177	433
Kansas State University .....	0	5	1	39	12	27	12	10	39	128
University of Kansas .....	6	1	2	32	31	1	40	17	132	278
Wichita State University .....	0	1	0	1	1	0	6	0	6	27
Kentucky, total .....	4	11	4	56	45	11	31	24	151	317
Southern Baptist Theological Sem ....	0	0	0	0	0	0	0	0	19	19
Spalding University .....	0	0	0	0	0	0	0	0	17	17
University of Kentucky .....	4	11	2	40	29	11	20	20	83	203
University of Louisville .....	0	0	2	16	16	0	11	4	32	78
Louisiana, total .....	14	18	19	94	75	19	33	41	248	557
Grambling State University .....	0	0	0	0	0	0	0	0	11	11
LA St U & A&M College .....	13	5	10	36	17	19	20	23	101	253
LA St U Shreveport .....	0	0	0	13	13	0	0	0	0	13
LA St U Medical Center .....	0	0	0	7	7	0	0	0	6	13
Louisiana Tech University .....	0	0	1	0	0	0	0	0	12	26
New Orleans Baptist Theol Sem .....	0	0	0	0	0	0	0	0	21	21
Univ of Louisiana at Monroe .....	0	0	0	3	3	0	0	0	3	6
Southern U A&M Col Baton Rouge ...	0	0	0	0	0	0	0	0	2	2
Tulane University .....	0	6	2	30	30	0	8	12	58	140
University of New Orleans .....	1	0	0	0	0	0	5	5	19	35
Univ of Louisiana at Lafayette .....	0	7	6	5	5	0	0	1	15	37
Maine, total .....	4	0	0	9	4	5	3	1	10	37
University of Maine .....	4	0	0	9	4	5	3	1	10	37

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Maryland, total .....	11	687	137	14	13	35	29	46	67	44	23	0
Johns Hopkins University .....	31	223	47	6	6	6	12	17	18	12	6	0
Loyola College .....	308	3	0	0	0	0	0	0	0	0	0	0
Morgan State University .....	332	0	0	0	0	0	0	0	0	0	0	0
Peabody Inst of Johns Hopkins U .....	332	0	0	0	0	0	0	0	0	0	0	0
Uniformed Services U of Hlth Sci .....	257	12	0	0	0	0	0	0	0	0	0	0
U of Maryland Baltimore .....	157	40	0	0	0	0	0	0	3	0	3	0
U of Maryland Baltimore County .....	131	53	9	1	0	1	4	3	4	1	3	0
U of Maryland College Park .....	14	355	81	7	7	28	13	26	42	31	11	0
U of Maryland Eastern Shore .....	324	1	0	0	0	0	0	0	0	0	0	0
Massachusetts, total .....	4	1,498	312	47	17	82	66	100	277	131	146	0
American International College .....	332	0	0	0	0	0	0	0	0	0	0	0
Boston College .....	156	42	0	0	0	0	0	0	13	1	12	0
Boston University .....	47	172	17	0	0	6	4	7	25	16	9	0
Brandeis University .....	103	80	0	0	0	0	0	0	18	5	13	0
Clark University .....	191	27	0	0	0	0	0	0	5	2	3	0
Harvard University .....	17	328	14	0	0	2	3	9	47	19	28	0
MA Col Pharmacy & Allied Health .....	316	2	0	0	0	0	0	0	2	0	2	0
Massachusetts Institute of Tech .....	5	453	194	25	8	48	43	70	68	54	34	0
New England Conserv of Music .....	332	0	0	0	0	0	0	0	0	0	0	0
Northeastern University .....	104	75	16	0	1	9	3	3	22	9	13	0
Simmons College .....	332	0	0	0	0	0	0	0	0	0	0	0
Smith College .....	332	0	0	0	0	0	0	0	0	0	0	0
Springfield College .....	332	0	0	0	0	0	0	0	0	0	0	0
Tufts University .....	115	66	9	2	0	0	6	1	8	4	4	0
U of Massachusetts Amherst .....	42	185	39	17	5	8	2	7	33	16	17	0
U of Massachusetts Boston .....	248	13	0	0	0	0	0	0	0	0	0	0
U of Massachusetts Lowell .....	177	30	12	3	2	6	0	1	13	4	9	0
U of Massachusetts Worcester .....	277	8	0	0	0	0	0	0	0	0	0	0
Worcester Polytechnic Institute .....	227	17	11	0	1	3	5	2	3	1	2	0
Michigan, total .....	8	958	253	15	15	73	60	90	127	48	77	2
Andrews University .....	292	6	0	0	0	0	0	0	0	0	0	0
Central Michigan University .....	300	4	0	0	0	0	0	0	0	0	0	0
Eastern Michigan University .....	332	0	0	0	0	0	0	0	0	0	0	0
Michigan State University .....	22	279	45	3	6	15	13	8	37	14	23	0
Michigan Technological U .....	173	32	22	5	0	0	8	9	1	1	0	0
Oakland University .....	221	19	14	0	0	0	1	13	3	1	1	1
University of Detroit Mercy .....	268	10	2	1	0	1	0	0	0	0	0	0
University of Michigan Ann Arbor .....	6	446	145	2	7	50	32	54	61	25	35	1
Wayne State University .....	65	133	25	4	2	7	6	6	23	5	18	0
Western Michigan University .....	184	29	0	0	0	0	0	0	2	2	0	0
Minnesota, total .....	19	415	83	18	10	12	16	27	56	24	32	0
Luther NW Theological Seminary .....	332	0	0	0	0	0	0	0	0	0	0	0
Mayo Sch Health-Related Sciences .....	217	20	4	0	0	0	0	4	0	0	0	0
U of Minnesota Twin Cities .....	10	375	79	18	10	12	16	23	56	24	32	0
University of St Thomas .....	332	0	0	0	0	0	0	0	0	0	0	0
Walden University .....	217	20	0	0	0	0	0	0	0	0	0	0
Mississippi, total .....	35	164	17	4	1	2	3	7	27	0	27	0
Delta State University .....	332	0	0	0	0	0	0	0	0	0	0	0
Jackson State University .....	272	9	0	0	0	0	0	0	0	0	0	0
Mississippi State University .....	110	71	9	2	0	1	1	5	10	0	10	0
Reformed Theological Sem .....	332	0	0	0	0	0	0	0	0	0	0	0
U of Mississippi .....	160	38	6	0	1	1	2	2	6	0	6	0
U of Mississippi Med Ctr .....	248	13	0	0	0	0	0	0	0	0	0	0
U of Southern Mississippi .....	170	33	2	2	0	0	0	0	11	0	11	0

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agric- ultural				
Maryland, total .....	21	37	35	194	184	10	62	134	319	1,006
Johns Hopkins University .....	3	10	1	94	94	0	6	44	118	341
Loyola College .....	0	0	0	0	0	0	3	0	0	3
Morgan State University .....	0	0	0	0	0	0	0	0	6	6
Peabody Inst of Johns Hopkins U .....	0	0	0	0	0	0	0	0	21	21
Uniformed Services U of Hlth Sci .....	0	0	0	8	8	0	4	0	0	12
U of Maryland Baltimore .....	0	0	0	36	36	0	0	1	21	61
U of Maryland Baltimore County .....	1	4	9	8	8	0	13	5	4	57
U of Maryland College Park .....	16	23	25	48	38	10	36	84	149	504
U of Maryland Eastern Shore .....	1	0	0	0	0	0	0	0	0	1
Massachusetts, total .....	45	57	39	333	318	15	104	331	634	2,132
American International College .....	0	0	0	0	0	0	0	0	4	4
Boston College .....	0	0	0	7	7	0	9	13	56	98
Boston University .....	1	6	4	49	48	1	27	43	128	300
Brandeis University .....	0	7	3	16	16	0	8	28	23	103
Clark University .....	0	0	0	4	4	0	5	13	2	29
Harvard University .....	7	20	3	113	112	1	9	115	236	564
MA Col Pharmacy & Allied Health .....	0	0	0	0	0	0	0	0	0	2
Massachusetts Institute of Tech .....	32	17	19	39	39	0	6	58	34	487
New England Conserv of Music .....	0	0	0	0	0	0	0	0	3	3
Northeastern University .....	0	0	0	15	15	0	9	13	5	80
Simmons College .....	0	0	0	0	0	0	0	0	4	4
Smith College .....	0	0	0	0	0	0	0	0	13	13
Springfield College .....	0	0	0	0	0	0	0	0	9	9
Tufts University .....	0	0	0	29	29	0	7	13	12	78
U of Massachusetts Amherst .....	3	7	6	48	35	13	21	28	84	269
U of Massachusetts Boston .....	2	0	0	1	1	0	3	7	5	18
U of Massachusetts Lowell .....	0	0	4	1	1	0	0	0	16	46
U of Massachusetts Worcester .....	0	0	0	8	8	0	0	0	0	8
Worcester Polytechnic Institute .....	0	0	0	3	3	0	0	0	0	17
Michigan, total .....	18	46	26	199	160	39	125	164	470	1,428
Andrews University .....	0	0	0	0	0	0	6	0	21	27
Central Michigan University .....	0	0	1	0	0	0	3	0	1	5
Eastern Michigan University .....	0	0	0	0	0	0	0	0	4	4
Michigan State University .....	1	17	5	79	48	31	36	59	109	388
Michigan Technological U .....	1	0	0	8	4	4	0	0	4	36
Oakland University .....	0	0	0	2	2	0	0	0	6	25
University of Detroit Mercy .....	0	0	0	0	0	0	8	0	0	10
University of Michigan Ann Arbor .....	15	22	17	69	65	4	40	77	209	655
Wayne State University .....	0	6	3	41	41	0	20	15	93	226
Western Michigan University .....	1	1	0	0	0	0	12	13	23	52
Minnesota, total .....	6	13	10	135	98	37	55	57	359	774
Luther NW Theological Seminary .....	0	0	0	0	0	0	0	0	1	1
Mayo Sch Health-Related Sciences .....	0	0	0	16	16	0	0	0	0	20
U of Minnesota Twin Cities .....	6	13	10	119	82	37	37	55	281	656
University of St Thomas .....	0	0	0	0	0	0	0	0	22	22
Walden University .....	0	0	0	0	0	0	18	2	55	75
Mississippi, total .....	6	3	2	67	35	32	29	13	208	372
Delta State University .....	0	0	0	0	0	0	0	0	7	7
Jackson State University .....	4	0	0	0	0	0	0	5	16	25
Mississippi State University .....	0	2	1	42	10	32	2	5	41	112
Reformed Theological Sem .....	0	0	0	0	0	0	0	0	3	3
U of Mississippi .....	1	0	1	10	10	0	11	3	68	106
U of Mississippi Med Ctr .....	0	0	0	13	13	0	0	0	0	13
U of Southern Mississippi .....	1	1	0	2	2	0	16	0	73	106

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Missouri, total .....	20	389	66	13	5	11	10	27	42	9	33	0
Concordia Seminary .....	332	0	0	0	0	0	0	0	0	0	0	0
St Louis University .....	133	51	0	0	0	0	0	0	0	0	0	0
University Missouri Columbia .....	67	129	17	4	0	4	2	7	11	3	8	0
University Missouri Kansas City .....	205	22	2	0	0	0	1	1	5	2	3	0
University Missouri Rolla .....	152	44	30	4	4	2	5	15	10	1	9	0
University Missouri St Louis .....	205	22	0	0	0	0	0	0	3	0	3	0
Washington University .....	69	121	17	5	1	5	2	4	13	3	10	0
Montana, total .....	40	58	6	0	5	0	1	0	16	5	11	0
Montana St University Bozeman .....	177	30	6	0	5	0	1	0	11	5	6	0
University of Montana .....	187	28	0	0	0	0	0	0	5	0	5	0
Nebraska, total .....	32	174	14	1	1	2	0	10	24	9	15	0
Creighton University .....	277	8	0	0	0	0	0	0	0	0	0	0
U of Nebraska at Lincoln .....	60	142	14	1	1	2	0	10	22	9	13	0
U of Nebraska at Omaha .....	308	3	0	0	0	0	0	0	0	0	0	0
U of Nebraska Medical Center .....	214	21	0	0	0	0	0	0	2	0	2	0
Nevada, total .....	41	57	8	1	5	0	1	1	10	7	3	0
University of Nevada-Las Vegas .....	284	7	1	0	1	0	0	0	0	0	0	0
University of Nevada-Reno .....	136	50	7	1	4	0	1	1	10	7	3	0
New Hampshire, total .....	38	78	11	2	0	3	1	5	14	6	8	0
Dartmouth College .....	140	48	8	1	0	2	0	5	8	2	6	0
University of New Hampshire .....	177	30	3	1	0	1	1	0	6	4	2	0
New Jersey, total .....	16	565	112	15	8	38	11	40	105	51	54	0
Drew University .....	332	0	0	0	0	0	0	0	0	0	0	0
Fairleigh Dickinson U .....	244	14	0	0	0	0	0	0	0	0	0	0
New Jersey Institute Technology .....	160	38	15	1	5	7	1	1	3	1	2	0
Princeton Theological Seminary .....	332	0	0	0	0	0	0	0	0	0	0	0
Princeton University .....	41	187	36	7	1	20	4	4	54	33	21	0
Rutgers St U NJ New Brunswick .....	28	238	48	6	1	6	5	30	26	12	14	0
Rutgers St U NJ Newark Campus .....	197	25	0	0	0	0	0	0	7	1	6	0
Seton Hall University .....	217	20	0	0	0	0	0	0	11	0	11	0
Stevens Institute of Technology .....	225	18	13	1	1	5	1	5	4	4	0	0
U of Medicine & Dentistry of NJ .....	197	25	0	0	0	0	0	0	0	0	0	0
New Mexico, total .....	33	167	28	4	5	10	3	6	35	22	13	0
New Mexico Inst Mining & Tech .....	284	7	1	1	0	0	0	0	2	1	1	0
New Mexico State University .....	127	56	12	0	4	5	1	2	15	11	4	0
U of New Mexico, All Campuses .....	81	104	15	3	1	5	2	4	18	10	8	0
New York, total .....	2	2,223	317	31	35	101	56	94	306	150	154	2
Adelphi University .....	205	22	0	0	0	0	0	0	0	0	0	0
Albany Medical College .....	217	20	0	0	0	0	0	0	0	0	0	0
Alfred University .....	272	9	9	0	0	0	0	9	0	0	0	0
Clarkson University .....	221	19	11	2	5	1	3	0	7	2	5	0
Columbia U in City of New York .....	26	250	38	4	2	13	6	13	35	13	22	0
Cornell U Endowed Colleges .....	8	379	57	4	6	20	11	16	65	35	29	1
Cornell U Medical Campus .....	170	33	0	0	0	0	0	0	0	0	0	0
CUNY Grad School & U Center .....	40	190	23	4	2	9	4	4	28	10	18	0
Fordham University .....	157	40	0	0	0	0	0	0	0	0	0	0
Hebrew Union Col-Jewish Inst Rel .....	324	1	0	0	0	0	0	0	0	0	0	0
Hofstra University .....	167	34	0	0	0	0	0	0	0	0	0	0
Jewish Theological Sem America .....	332	0	0	0	0	0	0	0	0	0	0	0
Juilliard School .....	332	0	0	0	0	0	0	0	0	0	0	0
Long Island University Brooklyn .....	239	15	0	0	0	0	0	0	0	0	0	0
New School University .....	140	48	0	0	0	0	0	0	0	0	0	0
New York Medical College .....	262	11	0	0	0	0	0	0	0	0	0	0
New York University .....	45	177	0	0	0	0	0	0	14	9	5	0

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agric- ultural				
Missouri, total .....	5	15	7	136	122	14	54	64	277	666
Concordia Seminary .....	0	0	0	0	0	0	0	0	2	2
St Louis University .....	1	0	0	25	25	0	13	12	81	132
University Missouri Columbia .....	0	6	0	48	34	14	22	25	101	230
University Missouri Kansas City .....	0	0	2	6	6	0	3	4	43	65
University Missouri Rolla .....	2	2	0	0	0	0	0	0	0	44
University Missouri St Louis .....	0	0	0	5	5	0	7	7	7	29
Washington University .....	2	7	5	52	52	0	9	16	43	164
Montana, total .....	2	2	0	22	14	8	10	0	25	83
Montana St University Bozeman .....	1	1	0	11	7	4	0	0	13	43
University of Montana .....	1	1	0	11	7	4	10	0	12	40
Nebraska, total .....	2	5	1	76	46	30	26	26	117	291
Creighton University .....	0	0	0	8	8	0	0	0	0	8
U of Nebraska at Lincoln .....	2	5	1	49	19	30	26	23	109	251
U of Nebraska at Omaha .....	0	0	0	0	0	0	0	3	1	4
U of Nebraska Medical Center .....	0	0	0	19	19	0	0	0	7	28
Nevada, total .....	5	0	0	11	10	1	18	5	28	85
University of Nevada-Las Vegas .....	0	0	0	2	1	1	0	4	16	23
University of Nevada-Reno .....	5	0	0	9	9	0	18	1	12	62
New Hampshire, total .....	3	5	3	31	30	1	6	5	19	97
Dartmouth College .....	1	4	3	22	22	0	2	0	1	49
University of New Hampshire .....	2	1	0	9	8	1	4	5	18	48
New Jersey, total .....	26	31	32	130	112	18	47	82	257	822
Drew University .....	0	0	0	0	0	0	0	0	26	26
Fairleigh Dickinson U .....	0	0	0	0	0	0	14	0	0	14
New Jersey Institute Technology .....	3	4	13	0	0	0	0	0	1	39
Princeton Theological Seminary .....	0	0	0	0	0	0	0	0	18	18
Princeton University .....	8	13	8	22	22	0	5	41	67	254
Rutgers St U NJ New Brunswick .....	15	13	11	74	57	17	18	33	109	347
Rutgers St U NJ Newark Campus .....	0	0	0	9	8	1	1	8	10	35
Seton Hall University .....	0	0	0	0	0	0	9	0	26	46
Stevens Institute of Technology .....	0	1	0	0	0	0	0	0	0	18
U of Medicine & Dentistry of NJ .....	0	0	0	25	25	0	0	0	0	25
New Mexico, total .....	3	15	7	39	28	11	19	21	109	276
New Mexico Inst Mining & Tech .....	3	0	1	0	0	0	0	0	0	7
New Mexico State University .....	0	4	2	16	5	11	7	0	22	78
U of New Mexico, All Campuses .....	0	11	4	23	23	0	12	21	87	191
New York, total .....	44	99	85	585	527	58	411	376	1,288	3,511
Adelphi University .....	0	1	0	0	0	0	21	0	6	28
Albany Medical College .....	0	0	0	20	20	0	0	0	0	20
Alfred University .....	0	0	0	0	0	0	0	0	0	9
Clarkson University .....	0	0	0	1	1	0	0	0	0	19
Columbia U in City of New York .....	10	10	8	51	51	0	42	56	166	416
Cornell U Endowed Colleges .....	3	19	14	143	89	54	12	66	106	485
Cornell U Medical Campus .....	0	0	0	33	33	0	0	0	0	33
CUNY Grad School & U Center .....	5	5	8	37	37	0	45	39	85	275
Fordham University .....	0	0	0	2	2	0	30	8	58	98
Hebrew Union Col-Jewish Inst Rel .....	0	0	0	0	0	0	1	0	3	4
Hofstra University .....	0	0	0	0	0	0	34	0	13	47
Jewish Theological Sem America .....	0	0	0	0	0	0	0	0	2	2
Juilliard School .....	0	0	0	0	0	0	0	0	14	14
Long Island University Brooklyn .....	0	0	0	0	0	0	15	0	0	15
New School University .....	0	0	0	0	0	0	27	21	9	57
New York Medical College .....	0	0	0	11	11	0	0	0	1	12
New York University .....	0	16	18	55	55	0	43	31	233	410

See explanatory information, if any, and SOURCE at end of table.

Table 6: Institutions conferring science and engineering (S&E) doctorates  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Pennsylvania, total .....	6	1,279	348	47	34	63	51	153	173	66	107	0
Allegheny Univ of the Hlth Sci .....	167	34	0	0	0	0	0	0	0	0	0	0
Bryn Mawr College .....	272	9	0	0	0	0	0	0	2	2	0	0
Carnegie Mellon University .....	56	147	76	11	8	22	4	31	11	6	5	0
Drexel University .....	136	50	25	2	2	7	5	9	5	2	3	0
Duquesne University .....	231	16	0	0	0	0	0	0	0	0	0	0
Indiana University of PA .....	248	13	0	0	0	0	0	0	0	0	0	0
Lehigh University .....	115	66	35	8	4	4	6	13	9	4	5	0
Pennsylvania State U .....	11	374	142	16	13	22	25	66	59	23	36	0
Philadelphia Col Pharmacy & Sci .....	324	1	0	0	0	0	0	0	1	0	1	0
Temple University .....	83	103	2	0	1	1	0	0	10	3	7	0
Thomas Jefferson University .....	191	27	0	0	0	0	0	0	0	0	0	0
University of Pennsylvania .....	27	243	38	4	0	3	7	24	38	20	18	0
University of Pittsburgh .....	39	192	30	6	6	4	4	10	34	6	28	0
Villanova University .....	300	4	0	0	0	0	0	0	4	0	4	0
Westminster Theological Seminary ...	332	0	0	0	0	0	0	0	0	0	0	0
Widener U Pennsylvania Campus .....	332	0	0	0	0	0	0	0	0	0	0	0
Rhode Island, total .....	32	174	24	1	0	14	6	3	24	13	11	0
Brown University .....	76	112	13	0	0	7	4	2	19	13	6	0
Salve Regina University .....	316	2	0	0	0	0	0	0	0	0	0	0
University of Rhode Island .....	124	60	11	1	0	7	2	1	5	0	5	0
South Carolina, total .....	30	241	54	13	6	13	10	12	34	5	29	0
Clemson University .....	89	93	37	1	6	9	9	12	14	3	11	0
Medical U South Carolina .....	184	29	0	0	0	0	0	0	0	0	0	0
South Carolina State University .....	332	0	0	0	0	0	0	0	0	0	0	0
U of South Carolina at Columbia .....	73	119	17	12	0	4	1	0	20	2	18	0
South Dakota, total .....	47	30	3	0	0	0	0	3	6	0	6	0
South Dakota Sch of Mines & Tech ...	308	3	3	0	0	0	0	3	0	0	0	0
South Dakota State University .....	231	16	0	0	0	0	0	0	6	0	6	0
University of South Dakota .....	262	11	0	0	0	0	0	0	0	0	0	0
Tennessee, total .....	23	360	67	10	13	7	12	25	29	6	23	0
East Tennessee State University .....	300	4	0	0	0	0	0	0	0	0	0	0
Meharry Medical College .....	248	13	0	0	0	0	0	0	0	0	0	0
Mid-America Baptist Theol Sem .....	332	0	0	0	0	0	0	0	0	0	0	0
Middle Tennessee State U .....	296	5	0	0	0	0	0	0	2	0	2	0
Tennessee State University .....	262	11	0	0	0	0	0	0	0	0	0	0
Tennessee Technological U .....	277	8	8	1	0	2	4	1	0	0	0	0
University of Memphis .....	149	45	7	0	5	0	1	1	2	0	2	0
University Tennessee Knoxville .....	50	161	32	6	2	2	4	18	18	4	14	0
University Tennessee Memphis .....	248	13	0	0	0	0	0	0	0	0	0	0
Vanderbilt University .....	86	100	20	3	6	3	3	5	7	2	5	0
Texas, total .....	3	1,670	398	74	61	105	53	105	223	96	126	1
Baylor College of Medicine .....	143	46	0	0	0	0	0	0	0	0	0	0
Baylor University .....	248	13	0	0	0	0	0	0	5	2	3	0
Dallas Theological Seminary .....	332	0	0	0	0	0	0	0	0	0	0	0
Lamar University .....	316	2	2	1	1	0	0	0	0	0	0	0
Rice University .....	84	102	29	7	1	8	5	8	25	11	13	1
Sam Houston State University .....	284	7	0	0	0	0	0	0	0	0	0	0
Southern Methodist University .....	162	37	20	0	0	8	3	9	1	1	0	0
Southwestern Baptist Theol Sem .....	300	4	0	0	0	0	0	0	0	0	0	0
St Mary's University .....	308	3	0	0	0	0	0	0	0	0	0	0
Stephen F Austin State U .....	324	1	0	0	0	0	0	0	0	0	0	0

See explanatory information, if any, and SOURCE at end of table.



Table 6 Institutions conferring science and engineering (S&E) doctorates  
by State, institution and major field, 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agric- ultural				
Pennsylvania, total .....	22	49	62	268	249	19	178	179	836	2,115
Allegheny Univ of the Hlth Sci .....	0	0	0	16	16	0	18	0	5	39
Bryn Mawr College .....	0	0	0	1	1	0	3	3	13	22
Carnegie Mellon University .....	0	9	25	8	8	0	6	12	15	162
Drexel University .....	1	0	4	6	6	0	9	0	6	56
Duquesne University .....	0	0	0	0	0	0	16	0	13	29
Indiana University of PA .....	0	0	0	0	0	0	7	6	43	56
Lehigh University .....	0	4	2	5	5	0	8	3	29	95
Pennsylvania State U .....	13	9	1	80	61	19	35	35	206	580
Philadelphia Col Pharmacy & Sci .....	0	0	0	0	0	0	0	0	6	7
Temple University .....	0	9	0	19	19	0	42	21	148	251
Thomas Jefferson University .....	0	0	0	27	27	0	0	0	0	27
University of Pennsylvania .....	4	9	17	64	64	0	13	60	141	384
University of Pittsburgh .....	4	9	13	42	42	0	21	39	168	360
Villanova University .....	0	0	0	0	0	0	0	0	3	7
Westminster Theological Seminary .....	0	0	0	0	0	0	0	0	11	11
Widener U Pennsylvania Campus .....	0	0	0	0	0	0	0	0	29	29
Rhode Island, total .....	15	22	4	25	24	1	25	35	63	237
Brown University .....	6	16	4	17	17	0	7	30	41	153
Salve Regina University .....	0	0	0	0	0	0	0	2	3	5
University of Rhode Island .....	9	6	0	8	7	1	18	3	19	79
South Carolina, total .....	10	12	5	80	71	9	16	30	175	416
Clemson University .....	1	5	2	26	17	9	1	7	19	112
Medical U South Carolina .....	0	0	0	29	29	0	0	0	1	30
South Carolina State University .....	0	0	0	0	0	0	0	0	5	5
U of South Carolina at Columbia .....	9	7	3	25	25	0	15	23	150	269
South Dakota, total .....	0	0	0	11	6	5	7	3	47	77
South Dakota Sch of Mines & Tech .....	0	0	0	0	0	0	0	0	0	3
South Dakota State University .....	0	0	0	7	2	5	0	3	0	16
University of South Dakota .....	0	0	0	4	4	0	7	0	47	58
Tennessee, total .....	1	11	5	120	109	11	82	45	307	667
East Tennessee State University .....	0	0	0	4	4	0	0	0	26	30
Meharry Medical College .....	0	0	0	13	13	0	0	0	0	13
Mid-America Baptist Theol Sem .....	0	0	0	0	0	0	0	0	8	8
Middle Tennessee State U .....	0	0	0	1	1	0	0	2	7	12
Tennessee State University .....	0	0	0	0	0	0	9	2	34	45
Tennessee Technological U .....	0	0	0	0	0	0	0	0	0	8
University of Memphis .....	0	6	1	1	1	0	26	2	51	96
University Tennessee Knoxville .....	1	4	4	45	34	11	29	28	95	256
University Tennessee Memphis .....	0	0	0	13	13	0	0	0	4	17
Vanderbilt University .....	0	1	0	43	43	0	18	11	82	182
Texas, total .....	70	52	61	460	402	58	209	197	1,027	2,697
Baylor College of Medicine .....	0	0	0	46	46	0	0	0	0	46
Baylor University .....	1	3	0	3	3	0	0	1	30	43
Dallas Theological Seminary .....	0	0	0	0	0	0	0	0	7	7
Lamar University .....	0	0	0	0	0	0	0	0	1	3
Rice University .....	6	7	1	14	14	0	3	17	20	122
Sam Houston State University .....	0	0	0	0	0	0	0	7	0	7
Southern Methodist University .....	2	4	2	3	3	0	2	3	3	40
Southwestern Baptist Theol Sem .....	0	0	0	0	0	0	4	0	48	52
St Mary's University .....	0	0	0	0	0	0	3	0	1	4
Stephen F Austin State U .....	0	0	0	1	0	1	0	0	0	1

See explanatory information, if any, and SOURCE at end of table.

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Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Texas, continued:												
Texas A&M University .....	9	377	104	22	13	19	19	31	51	12	39	0
Texas A&M University Commerce .....	284	7	0	0	0	0	0	0	0	0	0	0
Texas A&M University Kingsville .....	324	1	0	0	0	0	0	0	0	0	0	0
Texas Christian University .....	227	17	0	0	0	0	0	0	8	3	5	0
Texas Southern University .....	296	5	0	0	0	0	0	0	0	0	0	0
Texas Tech University .....	80	105	20	8	3	4	2	3	10	1	9	0
Texas Woman's University .....	205	22	0	0	0	0	0	0	0	0	0	0
University of Dallas .....	316	2	0	0	0	0	0	0	0	0	0	0
University of Houston .....	77	109	27	7	5	1	3	11	19	5	14	0
U North TX .....	115	66	1	0	0	0	0	1	7	7	0	0
U North TX Hlth Sci Ctr Ft Worth .....	300	4	0	0	0	0	0	0	0	0	0	0
University of St Thomas .....	332	0	0	0	0	0	0	0	0	0	0	0
U Texas at Arlington .....	131	53	20	0	0	11	1	8	8	3	5	0
U Texas at Austin .....	4	463	162	29	38	45	20	30	77	44	33	0
U Texas at Dallas .....	162	37	4	0	0	3	0	1	9	4	5	0
U Texas at El Paso .....	239	15	9	0	0	6	0	3	0	0	0	0
U Texas Hlth Sci Ctr .....	121	61	0	0	0	0	0	0	0	0	0	0
U Texas Hlth Sci Ctr San Antonio .....	200	23	0	0	0	0	0	0	3	3	0	0
U Texas Med Branch Galveston .....	174	31	0	0	0	0	0	0	0	0	0	0
U Texas SW Med Ctr Dallas .....	126	57	0	0	0	0	0	0	0	0	0	0
Utah, total .....	28	268	54	7	9	6	12	20	51	11	40	0
Brigham Young University .....	121	61	15	3	3	4	5	0	8	2	6	0
University of Utah .....	59	144	32	4	2	0	7	19	37	6	31	0
Utah State University .....	118	63	7	0	4	2	0	1	6	3	3	0
Vermont, total .....	46	34	6	0	1	2	1	2	1	0	1	0
Middlebury College .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Vermont .....	167	34	6	0	1	2	1	2	1	0	1	0
Virginia, total .....	13	647	153	15	14	26	34	64	80	42	37	1
College of William and Mary .....	162	37	0	0	0	0	0	0	12	11	1	0
George Mason University .....	100	83	10	0	0	2	0	8	5	4	1	0
Hampton University .....	296	5	0	0	0	0	0	0	5	5	0	0
Old Dominion University .....	149	45	15	0	1	4	4	6	3	2	0	1
Regent University .....	332	0	0	0	0	0	0	0	0	0	0	0
Union Theol Seminary (PSCE) .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Virginia .....	37	201	49	7	4	10	8	20	32	15	17	0
Virginia Commonwealth University .....	107	73	2	0	0	0	0	2	5	0	5	0
Virginia Polytechnic Inst & St U .....	36	203	77	8	9	10	22	28	18	5	13	0

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agri- cultural				
Texas, continued:										
Texas A&M University .....	26	11	14	109	66	43	19	43	124	501
Texas A&M University Commerce .....	0	0	0	0	0	0	7	0	37	44
Texas A&M University Kingsville .....	0	0	0	1	0	1	0	0	23	24
Texas Christian University .....	0	0	0	0	0	0	9	0	13	30
Texas Southern University .....	2	0	0	3	3	0	0	0	20	25
Texas Tech University .....	1	4	1	29	16	13	32	8	84	189
Texas Woman's University .....	0	0	0	4	4	0	15	3	44	66
University of Dallas .....	0	0	0	0	0	0	0	2	3	5
University of Houston .....	3	3	10	13	13	0	24	10	91	200
U North TX .....	2	4	8	11	11	0	30	3	108	174
U North TX Hlth Sci Ctr Ft Worth .....	0	0	0	4	4	0	0	0	0	4
University of St Thomas .....	0	0	0	0	0	0	0	0	1	1
U Texas at Arlington .....	1	4	3	5	5	0	6	6	27	80
U Texas at Austin .....	14	11	19	56	56	0	37	87	289	752
U Texas at Dallas .....	6	1	3	6	6	0	4	4	16	53
U Texas at El Paso .....	6	0	0	0	0	0	0	0	0	15
U Texas Hlth Sci Ctr .....	0	0	0	59	59	0	0	2	22	83
U Texas Hlth Sci Ctr San Antonio .....	0	0	0	20	20	0	0	0	9	32
U Texas Med Branch Galveston .....	0	0	0	30	30	0	0	1	6	37
U Texas SW Med Ctr Dallas .....	0	0	0	43	43	0	14	0	0	57
Utah, total .....	6	9	7	72	55	17	50	19	97	365
Brigham Young University .....	0	2	1	8	8	0	25	2	32	93
University of Utah .....	5	7	6	32	32	0	12	13	50	194
Utah State University .....	1	0	0	32	15	17	13	4	15	78
Vermont, total .....	0	1	0	17	16	1	9	0	19	53
Middlebury College .....	0	0	0	0	0	0	0	0	3	3
University of Vermont .....	0	1	0	17	16	1	9	0	16	50
Virginia, total .....	28	25	25	135	108	27	100	101	379	1,026
College of William and Mary .....	9	1	5	8	8	0	0	2	25	62
George Mason University .....	2	2	14	11	11	0	23	16	31	114
Hampton University .....	0	0	0	0	0	0	0	0	0	5
Old Dominion University .....	3	4	3	6	6	0	5	6	17	62
Regent University .....	0	0	0	0	0	0	0	0	9	9
Union Theol Seminary (PSCE) .....	0	0	0	0	0	0	0	0	8	8
University of Virginia .....	9	11	1	39	38	1	27	33	132	333
Virginia Commonwealth University .....	0	0	0	27	27	0	24	15	26	99
Virginia Polytechnic Inst & St U .....	5	7	2	44	18	26	21	29	131	334

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates,  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	S&E rank*	Total S&E	Engineering						Physical sciences			
			Total	Chemical	Civil	Electrical	Mechanical	Other engineering	Total	Physics & astronomy	Chemistry	Other physical sciences
Washington, total .....	17	446	72	10	7	18	15	22	59	32	27	0
Gonzaga University .....	332	0	0	0	0	0	0	0	0	0	0	0
Seattle Pacific University .....	332	0	0	0	0	0	0	0	0	0	0	0
Seattle University .....	332	0	0	0	0	0	0	0	0	0	0	0
University of Washington Seattle .....	15	339	56	10	5	14	7	20	50	27	23	0
Washington State University .....	79	107	16	0	2	4	8	2	9	5	4	0
West Virginia, total .....	39	77	17	1	2	2	5	7	2	0	2	0
Marshall University .....	308	3	0	0	0	0	0	0	0	0	0	0
West Virginia University .....	105	74	17	1	2	2	5	7	2	0	2	0
Wisconsin, total .....	15	592	95	9	9	17	25	35	89	34	54	1
Marquette University .....	200	23	7	0	1	1	2	3	5	0	5	0
Medical College of Wisconsin .....	221	19	0	0	0	0	0	0	0	0	0	0
U of Wisconsin Madison .....	2	476	83	9	8	14	20	32	72	31	40	1
U of Wisconsin Milwaukee .....	105	74	5	0	0	2	3	0	12	3	9	0
Wyoming, total .....	43	54	10	1	2	4	3	0	9	1	8	0
University of Wyoming .....	129	54	10	1	2	4	3	0	9	1	8	0
Puerto Rico, total .....	37	89	3	0	3	0	0	0	10	1	9	0
Carlos Albizu University .....	157	40	0	0	0	0	0	0	0	0	0	0
Inter American U PR Metropolitan .....	332	0	0	0	0	0	0	0	0	0	0	0
U of PR Mayaguez Campus .....	277	8	3	0	3	0	0	0	0	0	0	0
U of PR Medical Science Campus .....	300	4	0	0	0	0	0	0	0	0	0	0
U of PR Rio Piedras .....	162	37	0	0	0	0	0	0	10	1	9	0

See explanatory information, if any, and SOURCE at end of table.

Table 6. Institutions conferring science and engineering (S&E) doctorates  
by State, institution, and major field: 1999

[To increase readability, fields span two pages and institutions are repeated on facing pages.]

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State and institution	Earth, atmos., & ocean sci- ences	Mathe- matics	Com- puter sci- ences	Biological & agricultural sciences			Psy- chology	Social sci- ences	Non- S&E, total	Grand total, all fields
				Total	Bio- logical	Agric- ul- tural				
Washington, total .....	26	21	9	144	110	34	32	83	260	706
Gonzaga University .....	0	0	0	0	0	0	0	0	12	12
Seattle Pacific University .....	0	0	0	0	0	0	0	0	10	10
Seattle University .....	0	0	0	0	0	0	0	0	18	18
University of Washington Seattle .....	26	20	7	102	82	20	20	58	182	521
Washington State University .....	0	1	2	42	28	14	12	25	38	145
West Virginia, total .....	2	4	1	19	18	1	24	8	63	140
Marshall University .....	0	0	0	3	3	0	0	0	0	3
West Virginia University .....	2	4	1	16	15	1	24	8	63	137
Wisconsin, total .....	19	28	16	183	151	32	52	110	281	873
Marquette University .....	0	1	0	4	4	0	6	0	36	59
Medical College of Wisconsin .....	0	0	0	19	19	0	0	0	0	19
U of Wisconsin Madison .....	18	20	14	151	119	32	32	86	209	685
U of Wisconsin Milwaukee .....	1	7	2	9	9	0	14	24	36	110
Wyoming, total .....	6	6	0	16	10	6	6	1	10	64
University of Wyoming .....	6	6	0	16	10	6	6	1	10	64
Puerto Rico, total .....	4	0	0	10	9	1	61	1	52	141
Carlos Albizu University .....	0	0	0	0	0	0	40	0	0	40
Inter American U PR Metropolitan .....	0	0	0	0	0	0	0	0	27	27
U of PR Mayaguez Campus .....	4	0	0	1	0	1	0	0	0	8
U of PR Medical Science Campus .....	0	0	0	4	4	0	0	0	0	4
U of PR Rio Piedras .....	0	0	0	5	5	0	21	1	25	62

KEY: - = Not applicable  
\* = States are ranked 1 to 49 and institutions are ranked 1 to 332.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Eamed Doctorates

Table 7. Postgraduation plans of science and engineering (S&E) doctorate recipients,  
by citizenship status and major field: 1999

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Field of study	Total	Definite plans								
		Total with definite plans	In the United States					Abroad	Location unknown	
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other			
		All recipients								
Science and engineering, total .....	25,953	16,547	14,877	6,485	2,985	3,777	1,630	1,605	65	
Engineering, total .....	5,337	3,277	2,922	659	317	1,673	273	342	13	
Aeronautical/astronautical .....	207	106	92	24	4	40	24	14	0	
Chemical .....	678	446	398	100	20	264	14	47	1	
Civil .....	585	346	286	78	46	124	38	57	3	
Electrical .....	1,477	923	854	94	97	591	72	65	4	
Industrial .....	209	131	113	7	29	64	13	17	1	
Materials/metallurgical .....	470	278	243	79	12	137	15	35	0	
Mechanical .....	853	527	473	126	54	252	41	51	3	
Other engineering .....	858	520	463	151	55	201	56	56	1	
Sciences, total .....	20,616	13,270	11,955	5,826	2,668	2,104	1,357	1,263	52	
Physical sciences, total .....	3,582	2,381	2,187	1,247	186	655	99	183	11	
Astronomy .....	160	124	104	74	10	13	7	20	0	
Chemistry .....	2,134	1,424	1,351	755	114	436	46	66	7	
Physics .....	1,271	820	720	412	60	204	44	96	4	
Other physical sciences .....	17	13	12	6	2	2	2	1	0	
Earth, atmospheric, and ocean sciences .....	807	512	433	208	61	92	72	76	3	
Mathematics .....	1,085	723	633	215	256	130	32	89	1	
Computer sciences .....	850	574	515	53	167	251	44	57	2	
Biological sciences .....	5,600	3,852	3,598	2,856	308	257	177	231	23	
Agricultural sciences .....	965	588	430	182	101	98	49	156	2	
Psychology .....	3,667	2,150	2,098	798	461	340	499	49	3	
Social sciences .....	4,060	2,490	2,061	267	1,128	281	385	422	7	
Non-S&E, total .....	15,187	9,428	8,636	605	4,937	697	2,397	745	47	
Grand total, all fields .....	41,140	25,975	23,513	7,090	7,922	4,474	4,027	2,350	112	

See explanatory information, if any, and SOURCE at end of table.

Table 7. Postgraduation plans of science and engineering (S&E) doctorate recipients,  
by citizenship status and major field: 1999

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Field of study	Total	Definite plans							
		Total with definite plans	In the United States					Abroad	Location unknown
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
		U.S. citizens							
Science and engineering, total .....	15,783	10,939	10,537	4,298	2,462	2,320	1,457	372	30
Engineering, total .....	2,474	1,718	1,665	321	233	862	249	45	8
Aeronautical/astronautical .....	103	68	66	14	2	26	24	2	0
Chemical .....	335	249	241	50	17	163	11	8	0
Civil .....	259	168	163	29	41	58	35	3	2
Electrical .....	637	452	447	43	62	278	64	3	2
Industrial .....	86	66	64	4	20	28	12	1	1
Materials/metallurgical .....	223	144	134	34	11	74	15	10	0
Mechanical .....	396	269	260	62	41	118	39	7	2
Other engineering .....	435	302	290	85	39	117	49	11	1
Sciences, total .....	13,309	9,221	8,872	3,977	2,229	1,458	1,208	327	22
Physical sciences, total .....	2,023	1,479	1,404	729	158	434	83	69	6
Astronomy .....	110	88	78	52	9	10	7	10	0
Chemistry .....	1,251	928	892	449	100	308	35	31	5
Physics .....	651	455	426	225	47	115	39	28	1
Other physical sciences .....	11	8	8	3	2	1	2	0	0
Earth, atmospheric, and ocean sciences .....	470	322	301	127	50	60	64	19	2
Mathematics .....	538	392	373	99	187	63	24	18	1
Computer sciences .....	412	304	297	20	117	124	36	7	0
Biological sciences .....	3,654	2,676	2,570	1,962	264	192	152	97	9
Agricultural sciences .....	440	293	287	83	93	70	41	6	0
Psychology .....	3,161	2,018	1,996	755	433	323	485	21	1
Social sciences .....	2,611	1,737	1,644	202	927	192	323	90	3
Non-S&E, total .....	11,639	7,976	7,779	463	4,416	594	2,306	159	38
Grand total, all fields .....	27,622	18,915	18,316	4,761	6,878	2,914	3,763	531	68

See explanatory information, if any, and SOURCE at end of table.

Table 7. Postgraduation plans of science and engineering (S&E) doctorate recipients,  
by citizenship status and major field, 1999

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Field of study	Total	Definite plans							Abroad	Location unknown
		Total with definite plans	In the United States							
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other			
Non-U.S. citizens with permanent visas										
Science and engineering, total .....	1,645	1,033	966	443	142	316	65	61	6	
Engineering, total .....	399	250	238	50	19	163	6	10	2	
Aeronautical/astronautical .....	8	4	4	1	0	3	0	0	0	
Chemical .....	39	20	19	5	0	14	0	1	0	
Civil .....	51	27	26	10	1	14	1	1	0	
Electrical .....	125	81	78	9	6	62	1	2	1	
Industrial .....	13	7	6	0	1	5	0	1	0	
Materials/metallurgical .....	34	18	17	3	1	13	0	1	0	
Mechanical .....	64	46	43	8	4	30	1	2	1	
Other engineering .....	65	47	45	14	6	22	3	2	0	
Sciences, total .....	1,246	783	728	393	123	153	59	51	4	
Physical sciences, total .....	240	156	151	71	10	64	6	4	1	
Astronomy .....	6	5	5	4	0	1	0	0	0	
Chemistry .....	149	89	86	41	4	38	3	3	0	
Physics .....	84	61	59	26	6	24	3	1	1	
Other physical sciences .....	1	1	1	0	0	1	0	0	0	
Earth, atmospheric, and ocean sciences .....	51	31	26	16	5	0	5	5	0	
Mathematics .....	67	43	39	14	12	10	3	4	0	
Computer sciences .....	71	52	51	4	12	32	3	1	0	
Biological sciences .....	464	299	285	238	19	17	11	11	3	
Agricultural sciences .....	51	29	27	19	2	6	0	2	0	
Psychology .....	69	44	42	16	11	6	9	2	0	
Social sciences .....	233	129	107	15	52	18	22	22	0	
Non-S&E, total .....	655	380	324	40	206	34	44	53	3	
Grand total, all fields .....	2,300	1,413	1,290	483	348	350	109	114	9	

See explanatory information, if any, and SOURCE at end of table.



Table 7. Postgraduation plans of science and engineering (S&E) doctorate recipients,  
by citizenship status and major field: 1999

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Field of study	Total	Definite plans							
		Total with definite plans	In the United States					Abroad	Location unknown
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
Non-U.S. citizens with temporary visas									
Science and engineering, total .....	7,241	4,553	3,359	1,739	377	1,136	107	1,172	22
Engineering, total .....	2,193	1,306	1,016	287	65	646	18	287	3
Aeronautical/astronautical .....	83	33	21	9	2	10	0	12	0
Chemical .....	284	177	138	45	3	87	3	38	1
Civil .....	253	150	96	38	4	52	2	53	1
Electrical .....	636	389	328	42	29	250	7	60	1
Industrial .....	108	58	43	3	8	31	1	15	0
Materials/metallurgical .....	195	116	92	42	0	50	0	24	0
Mechanical .....	353	212	170	56	9	104	1	42	0
Other engineering .....	281	171	128	52	10	62	4	43	0
Sciences, total .....	5,048	3,247	2,343	1,452	312	490	89	885	19
Physical sciences, total .....	1,130	743	629	445	18	157	9	110	4
Astronomy .....	39	31	21	18	1	2	0	10	0
Chemistry .....	624	406	372	264	10	90	8	32	2
Physics .....	462	302	233	160	7	65	1	67	2
Other physical sciences .....	5	4	3	3	0	0	0	1	0
Earth, atmospheric, and ocean sciences .....	242	159	106	65	6	32	3	52	1
Mathematics .....	444	288	221	102	57	57	5	67	0
Computer sciences .....	330	215	165	29	37	94	5	49	1
Biological sciences .....	1,286	871	740	654	24	48	14	123	8
Agricultural sciences .....	459	266	116	80	6	22	8	148	2
Psychology .....	154	88	60	27	17	11	5	26	2
Social sciences .....	1,003	617	306	50	147	69	40	310	1
Non-S&E, total .....	1,827	1,067	531	102	315	68	46	532	4
Grand total, all fields .....	9,068	5,620	3,890	1,841	692	1,204	153	1,704	26

NOTE: Details may not add to totals because of persons with unknown citizenship.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates

**Table 8. Percentage distribution of definite postgraduation plans of science and engineering (S&E) doctorate recipients, by citizenship status and major field: 1999**

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Field of study	Definite plans	In the United States					Abroad	Location unknown
		Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
All recipients								
Science and engineering, total .....	100.0	89.9	39.2	18.0	22.8	9.9	9.7	0.4
Engineering, total .....	100.0	89.2	20.1	9.7	51.1	8.3	10.4	.4
Aeronautical/astronautical .....	100.0	86.8	22.6	3.8	37.7	22.6	13.2	0
Chemical .....	100.0	89.2	22.4	4.5	59.2	3.1	10.5	.2
Civil .....	100.0	82.7	22.5	13.3	35.8	11.0	16.5	.9
Electrical .....	100.0	92.5	10.2	10.5	64.0	7.8	7.0	.4
Industrial .....	100.0	86.3	5.3	22.1	48.9	9.9	13.0	.8
Materials/metallurgical .....	100.0	87.4	28.4	4.3	49.3	5.4	12.6	0
Mechanical .....	100.0	89.8	23.9	10.2	47.8	7.8	9.7	.6
Other engineering .....	100.0	89.0	29.0	10.6	38.7	10.8	10.8	.2
Sciences, total .....	100.0	90.1	43.9	20.1	15.9	10.2	9.5	.4
Physical sciences, total .....	100.0	91.9	52.4	7.8	27.5	4.2	7.7	.5
Astronomy .....	100.0	83.9	59.7	8.1	10.5	5.6	16.1	0
Chemistry .....	100.0	94.9	53.0	8.0	30.6	3.2	4.6	.5
Physics .....	100.0	87.8	50.2	7.3	24.9	5.4	11.7	.5
Other physical sciences .....	100.0	92.3	46.2	15.4	15.4	15.4	7.7	0
Earth, atmospheric, and ocean sciences .....	100.0	84.6	40.6	11.9	18.0	14.1	14.8	.6
Mathematics .....	100.0	87.6	29.7	35.4	18.0	4.4	12.3	.1
Computer sciences .....	100.0	89.7	9.2	29.1	43.7	7.7	9.9	.3
Biological sciences .....	100.0	93.4	74.1	8.0	6.7	4.6	6.0	.6
Agricultural sciences .....	100.0	73.1	31.0	17.2	16.7	8.3	26.5	.3
Psychology .....	100.0	97.6	37.1	21.4	15.8	23.2	2.3	.1
Social sciences .....	100.0	82.8	10.7	45.3	11.3	15.5	16.9	.3
Non-S&E, total .....	100.0	91.6	6.4	52.4	7.4	25.4	7.9	.5
Grand total, all fields .....	100.0	90.5	27.3	30.5	17.2	15.5	9.0	.4
U.S. citizens								
Science and engineering, total .....	100.0	96.3	39.3	22.5	21.2	13.3	3.4	0.3
Engineering, total .....	100.0	96.9	18.7	13.6	50.2	14.5	2.6	.5
Aeronautical/astronautical .....	100.0	97.1	20.6	2.9	38.2	35.3	2.9	0
Chemical .....	100.0	96.8	20.1	6.8	65.5	4.4	3.2	0
Civil .....	100.0	97.0	17.3	24.4	34.5	20.8	1.8	1.2
Electrical .....	100.0	98.9	9.5	13.7	61.5	14.2	.7	.4
Industrial .....	100.0	97.0	6.1	30.3	42.4	18.2	1.5	1.5
Materials/metallurgical .....	100.0	93.1	23.6	7.6	51.4	10.4	6.9	0
Mechanical .....	100.0	96.7	23.0	15.2	43.9	14.5	2.6	.7
Other engineering .....	100.0	96.0	28.1	12.9	38.7	16.2	3.6	.3
Sciences, total .....	100.0	96.2	43.1	24.2	15.8	13.1	3.5	.2
Physical sciences, total .....	100.0	94.9	49.3	10.7	29.3	5.6	4.7	.4
Astronomy .....	100.0	88.6	59.1	10.2	11.4	8.0	11.4	0
Chemistry .....	100.0	96.1	48.4	10.8	33.2	3.8	3.3	.5
Physics .....	100.0	93.6	49.5	10.3	25.3	8.6	6.2	.2
Other physical sciences .....	100.0	100.0	37.5	25.0	12.5	25.0	0	0
Earth, atmospheric, and ocean sciences .....	100.0	93.5	39.4	15.5	18.6	19.9	5.9	.6
Mathematics .....	100.0	95.2	25.3	47.7	16.1	6.1	4.6	.3
Computer sciences .....	100.0	97.7	6.6	38.5	40.8	11.8	2.3	0
Biological sciences .....	100.0	96.0	73.3	9.9	7.2	5.7	3.6	.3
Agricultural sciences .....	100.0	98.0	28.3	31.7	23.9	14.0	2.0	0
Psychology .....	100.0	98.9	37.4	21.5	16.0	24.0	1.0	.0
Social sciences .....	100.0	94.6	11.6	53.4	11.1	18.6	5.2	.2
Non-S&E, total .....	100.0	97.5	5.8	55.4	7.4	28.9	2.0	.5
Grand total, all fields .....	100.0	96.8	25.2	36.4	15.4	19.9	2.8	.4

See explanatory information, if any, and SOURCE at end of table.

**Table 8. Percentage distribution of definite postgraduation plans of science and engineering (S&E) doctorate recipients, by citizenship status and major field: 1999**

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Field of study	Definite plans	In the United States					Abroad	Location unknown
		Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
Non-U.S. citizens with permanent visas								
Science and engineering, total .....	100.0	93.5	42.9	13.7	30.6	6.3	5.9	0.6
Engineering, total .....	100.0	95.2	20.0	7.6	65.2	2.4	4.0	.8
Aeronautical/astronautical .....	100.0	100.0	25.0	0	75.0	0	0	0
Chemical .....	100.0	95.0	25.0	0	70.0	0	5.0	0
Civil .....	100.0	96.3	37.0	3.7	51.9	3.7	3.7	0
Electrical .....	100.0	96.3	11.1	7.4	76.5	1.2	2.5	1.2
Industrial .....	100.0	85.7	0	14.3	71.4	0	14.3	0
Materials/metallurgical .....	100.0	94.4	16.7	5.6	72.2	0	5.6	0
Mechanical .....	100.0	93.5	17.4	8.7	65.2	2.2	4.3	2.2
Other engineering .....	100.0	95.7	29.8	12.8	46.8	6.4	4.3	0
Sciences, total .....	100.0	93.0	50.2	15.7	19.5	7.5	6.5	.5
Physical sciences, total .....	100.0	96.8	45.5	6.4	41.0	3.8	2.6	.6
Astronomy .....	100.0	100.0	80.0	0	20.0	0	0	0
Chemistry .....	100.0	96.6	46.1	4.5	42.7	3.4	3.4	0
Physics .....	100.0	96.7	42.6	9.8	39.3	4.9	1.6	1.6
Other physical sciences .....	100.0	100.0	0	0	100.0	0	0	0
Earth, atmospheric, and ocean sciences .....	100.0	83.9	51.6	16.1	0	16.1	16.1	0
Mathematics .....	100.0	90.7	32.6	27.9	23.3	7.0	9.3	0
Computer sciences .....	100.0	98.1	7.7	23.1	61.5	5.8	1.9	0
Biological sciences .....	100.0	95.3	79.6	6.4	5.7	3.7	3.7	1.0
Agricultural sciences .....	100.0	93.1	65.5	6.9	20.7	0	6.9	0
Psychology .....	100.0	95.5	36.4	25.0	13.6	20.5	4.5	0
Social sciences .....	100.0	82.9	11.6	40.3	14.0	17.1	17.1	0
Non-S&E, total .....	100.0	85.3	10.5	54.2	8.9	11.6	13.9	.8
Grand total, all fields .....	100.0	91.3	34.2	24.6	24.8	7.7	8.1	.6
Non-U.S. citizens with temporary visas								
Science and engineering, total .....	100.0	73.8	38.2	8.3	25.0	2.4	25.7	0.5
Engineering, total .....	100.0	77.8	22.0	5.0	49.5	1.4	22.0	.2
Aeronautical/astronautical .....	100.0	63.6	27.3	6.1	30.3	0	36.4	0
Chemical .....	100.0	78.0	25.4	1.7	49.2	1.7	21.5	.6
Civil .....	100.0	64.0	25.3	2.7	34.7	1.3	35.3	.7
Electrical .....	100.0	84.3	10.8	7.5	64.3	1.8	15.4	.3
Industrial .....	100.0	74.1	5.2	13.8	53.4	1.7	25.9	0
Materials/metallurgical .....	100.0	79.3	36.2	0	43.1	0	20.7	0
Mechanical .....	100.0	80.2	26.4	4.2	49.1	.5	19.8	0
Other engineering .....	100.0	74.9	30.4	5.8	36.3	2.3	25.1	0
Sciences, total .....	100.0	72.2	44.7	9.6	15.1	2.7	27.3	.6
Physical sciences, total .....	100.0	84.7	59.9	2.4	21.1	1.2	14.8	.5
Astronomy .....	100.0	67.7	58.1	3.2	6.5	0	32.3	0
Chemistry .....	100.0	91.6	65.0	2.5	22.2	2.0	7.9	.5
Physics .....	100.0	77.2	53.0	2.3	21.5	.3	22.2	.7
Other physical sciences .....	100.0	75.0	75.0	0	0	0	25.0	0
Earth, atmospheric, and ocean sciences .....	100.0	66.7	40.9	3.8	20.1	1.9	32.7	.6
Mathematics .....	100.0	76.7	35.4	19.8	19.8	1.7	23.3	0
Computer sciences .....	100.0	76.7	13.5	17.2	43.7	2.3	22.8	.5
Biological sciences .....	100.0	85.0	75.1	2.8	5.5	1.6	14.1	.9
Agricultural sciences .....	100.0	43.6	30.1	2.3	8.3	3.0	55.6	.8
Psychology .....	100.0	68.2	30.7	19.3	12.5	5.7	29.5	2.3
Social sciences .....	100.0	49.6	8.1	23.8	11.2	6.5	50.2	.2
Non-S&E, total .....	100.0	49.8	9.6	29.5	6.4	4.3	49.9	.4
Grand total, all fields .....	100.0	69.2	32.8	12.3	21.4	2.7	30.3	.5

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Eamed Doctorates

Table 9. Postgraduation plans of science and engineering (S&E) doctorate recipients  
(U.S. citizens and non-U.S. citizens with permanent visas),  
by sex and major field: 1999

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Field of study	Total	Definite plans							Abroad	Location unknown
		Total with definite plans	In the United States							
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other			
All recipients										
Science and engineering, total .....	17,428	11,972	11,503	4,741	2,604	2,636	1,522	433	36	
Engineering, total .....	2,873	1,968	1,903	371	252	1,025	255	55	10	
Aeronautical/astronautical .....	111	72	70	15	2	29	24	2	0	
Chemical .....	374	269	260	55	17	177	11	9	0	
Civil .....	310	195	189	39	42	72	36	4	2	
Electrical .....	762	533	525	52	68	340	65	5	3	
Industrial .....	99	73	70	4	21	33	12	2	1	
Materials/metallurgical .....	257	162	151	37	12	87	15	11	0	
Mechanical .....	460	315	303	70	45	148	40	9	3	
Other engineering .....	500	349	335	99	45	139	52	13	1	
Sciences, total .....	14,555	10,004	9,600	4,370	2,352	1,611	1,267	378	26	
Physical sciences, total .....	2,263	1,635	1,555	800	168	498	89	73	7	
Astronomy .....	116	93	83	56	9	11	7	10	0	
Chemistry .....	1,400	1,017	978	490	104	346	38	34	5	
Physics .....	735	516	485	251	53	139	42	29	2	
Other physical sciences .....	12	9	9	3	2	2	2	0	0	
Earth, atmospheric, and ocean sciences .....	521	353	327	143	55	60	69	24	2	
Mathematics .....	605	435	412	113	199	73	27	22	1	
Computer sciences .....	483	356	348	24	129	156	39	8	0	
Biological sciences .....	4,118	2,975	2,855	2,200	283	209	163	108	12	
Agricultural sciences .....	491	322	314	102	95	76	41	8	0	
Psychology .....	3,230	2,062	2,038	771	444	329	494	23	1	
Social sciences .....	2,844	1,866	1,751	217	979	210	345	112	3	
Non-S&E, total .....	12,494	8,356	8,103	503	4,622	628	2,350	212	41	
Grand total, all fields .....	29,922	20,328	19,606	5,244	7,226	3,264	3,872	645	77	

See explanatory information, if any, and SOURCE at end of table.

Table 9. Postgraduation plans of science and engineering (S&E) doctorate recipients  
(U.S. citizens and non-U.S. citizens with permanent visas),  
by sex and major field: 1999

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Field of study	Total	Definite plans							Abroad	Location unknown
		Total with definite plans	In the United States							
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other			
Women										
Science and engineering, total .....	6,994	4,593	4,444	1,954	1,155	700	635	139	10	
Engineering, total .....	490	325	311	74	61	150	26	12	2	
Aeronautical/astronautical .....	10	5	5	3	0	1	1	0	0	
Chemical .....	76	54	53	12	6	33	2	1	0	
Civil .....	61	41	41	9	15	11	6	0	0	
Electrical .....	81	48	47	7	5	28	7	0	1	
Industrial .....	31	24	24	1	9	12	2	0	0	
Materials/metallurgical .....	53	37	32	6	1	22	3	5	0	
Mechanical .....	60	35	32	5	11	14	2	2	1	
Other engineering .....	118	81	77	31	14	29	3	4	0	
Sciences, total .....	6,504	4,268	4,133	1,880	1,094	550	609	127	8	
Physical sciences, total .....	552	393	375	165	56	128	26	17	1	
Astronomy .....	25	20	19	13	3	0	3	1	0	
Chemistry .....	426	311	299	125	44	113	17	11	1	
Physics .....	95	57	52	26	8	14	4	5	0	
Other physical sciences .....	6	5	5	1	1	1	2	0	0	
Earth, atmospheric, and ocean sciences .....	151	94	89	42	21	16	10	5	0	
Mathematics .....	192	136	129	32	72	16	9	7	0	
Computer sciences .....	104	83	81	10	35	29	7	2	0	
Biological sciences .....	1,862	1,283	1,239	955	126	85	73	39	5	
Agricultural sciences .....	160	96	95	38	22	21	14	1	0	
Psychology .....	2,177	1,348	1,333	526	285	199	323	14	1	
Social sciences .....	1,306	835	792	112	477	56	147	42	1	
Non-S&E, total .....	7,170	4,793	4,669	300	2,648	330	1,391	98	26	
Grand total, all fields .....	14,164	9,386	9,113	2,254	3,803	1,030	2,026	237	36	

See explanatory information, if any, and SOURCE at end of table.

**Table 9. Postgraduation plans of science and engineering (S&E) doctorate recipients  
(U.S. citizens and non-U.S. citizens with permanent visas),  
by sex and major field: 1999**

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Field of study	Total	Definite plans								Abroad	Location unknown
		Total with definite plans	In the United States								
			Total in U.S.	Postdoc study	Academic employment	Industry employment	Other				
Men											
Science and engineering, total .....	10,434	7,379	7,059	2,787	1,449	1,936	887	294	26		
Engineering, total .....	2,383	1,643	1,592	297	191	875	229	43	8		
Aeronautical/astronautical .....	101	67	65	12	2	28	23	2	0		
Chemical .....	298	215	207	43	11	144	9	8	0		
Civil .....	249	154	148	30	27	61	30	4	2		
Electrical .....	681	485	478	45	83	312	58	5	2		
Industrial .....	68	49	46	3	12	21	10	2	1		
Materials/metallurgical .....	204	125	119	31	11	65	12	6	0		
Mechanical .....	400	280	271	65	34	134	36	7	2		
Other engineering .....	382	268	258	68	31	110	49	9	1		
Sciences, total .....	8,051	5,736	5,467	2,490	1,258	1,061	658	251	18		
Physical sciences, total .....	1,711	1,242	1,180	635	112	370	63	56	6		
Astronomy .....	91	73	64	43	6	11	4	9	0		
Chemistry .....	974	706	679	365	60	233	21	23	4		
Physics .....	640	459	433	225	45	125	38	24	2		
Other physical sciences .....	6	4	4	2	1	1	0	0	0		
Earth, atmospheric, and ocean sciences .....	370	259	238	101	34	44	59	19	2		
Mathematics .....	413	299	283	81	127	57	18	15	1		
Computer sciences .....	379	273	267	14	94	127	32	6	0		
Biological sciences .....	2,256	1,692	1,616	1,245	157	124	90	69	7		
Agricultural sciences .....	331	226	219	64	73	55	27	7	0		
Psychology .....	1,053	714	705	245	159	130	171	9	0		
Social sciences .....	1,538	1,031	959	105	502	154	198	70	2		
Non-S&E, total .....	5,324	3,563	3,434	203	1,974	298	959	114	15		
Grand total, all fields .....	15,758	10,942	10,493	2,990	3,423	2,234	1,846	408	41		

**SOURCE:** National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates

Table 10. Percentage distribution of definite postgraduation plans of science and engineering (S&E) doctorate recipients (U.S. citizens and non-U.S. citizens with permanent visas), by sex and major field: 1999

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Field of study	Definite plans	In the United States					Abroad	Location unknown
		Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
	All recipients							
Science and engineering, total .....	100.0	96.1	39.6	21.8	22.0	12.7	3.6	0.3
Engineering, total .....	100.0	96.7	18.9	12.8	52.1	13.0	2.8	.5
Aeronautical/astronautical .....	100.0	97.2	20.8	2.8	40.3	33.3	2.8	0
Chemical .....	100.0	96.7	20.4	6.3	65.8	4.1	3.3	0
Civil .....	100.0	96.9	20.0	21.5	36.9	18.5	2.1	1.0
Electrical .....	100.0	98.5	9.8	12.8	63.8	12.2	.9	.6
Industrial .....	100.0	95.9	5.5	28.8	45.2	16.4	2.7	1.4
Materials/metallurgical .....	100.0	93.2	22.8	7.4	53.7	9.3	6.8	0
Mechanical .....	100.0	96.2	22.2	14.3	47.0	12.7	2.9	1.0
Other engineering .....	100.0	96.0	28.4	12.9	39.8	14.9	3.7	.3
Sciences, total .....	100.0	96.0	43.7	23.5	16.1	12.7	3.8	.3
Physical sciences, total .....	100.0	95.1	48.9	10.3	30.5	5.4	4.5	.4
Astronomy .....	100.0	89.2	60.2	9.7	11.8	7.5	10.8	0
Chemistry .....	100.0	96.2	48.2	10.2	34.0	3.7	3.3	.5
Physics .....	100.0	94.0	48.6	10.3	26.9	8.1	5.6	.4
Other physical sciences .....	100.0	100.0	33.3	22.2	22.2	22.2	0	0
Earth, atmospheric, and ocean sciences .....	100.0	92.6	40.5	15.6	17.0	19.5	6.8	.6
Mathematics .....	100.0	94.7	26.0	45.7	16.8	6.2	5.1	.2
Computer sciences .....	100.0	97.8	6.7	36.2	43.8	11.0	2.2	0
Biological sciences .....	100.0	96.0	73.9	9.5	7.0	5.5	3.6	.4
Agricultural sciences .....	100.0	97.5	31.7	29.5	23.6	12.7	2.5	0
Psychology .....	100.0	98.8	37.4	21.5	16.0	24.0	1.1	.0
Social sciences .....	100.0	93.8	11.6	52.5	11.3	18.5	6.0	.2
Non-S&E, total .....	100.0	97.0	6.0	55.3	7.5	28.1	2.5	.5
Grand total, all fields .....	100.0	96.4	25.8	35.5	16.1	19.0	3.2	.4

See explanatory information, if any, and SOURCE at end of table.



Table 10. Percentage distribution of definite postgraduation plans of science and engineering (S&E) doctorate recipients (U.S. citizens and non-U.S. citizens with permanent visas), by sex and major field: 1999

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Field of study	Definite plans	In the United States					Abroad	Location unknown
		Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
		Women						
Science and engineering, total .....	100.0	96.8	42.5	25.1	15.2	13.8	3.0	0.2
Engineering, total .....	100.0	95.7	22.8	18.8	46.2	8.0	3.7	.6
Aeronautical/astronautical .....	100.0	100.0	60.0	0	20.0	20.0	0	0
Chemical .....	100.0	98.1	22.2	11.1	61.1	3.7	1.9	0
Civil .....	100.0	100.0	22.0	36.6	26.8	14.6	0	0
Electrical .....	100.0	97.9	14.6	10.4	58.3	14.6	0	2.1
Industrial .....	100.0	100.0	4.2	37.5	50.0	8.3	0	0
Materials/metallurgical .....	100.0	86.5	16.2	2.7	59.5	8.1	13.5	0
Mechanical .....	100.0	91.4	14.3	31.4	40.0	5.7	5.7	2.9
Other engineering .....	100.0	95.1	38.3	17.3	35.8	3.7	4.9	0
Sciences, total .....	100.0	96.8	44.0	25.6	12.9	14.3	3.0	.2
Physical sciences, total .....	100.0	95.4	42.0	14.2	32.6	6.6	4.3	.3
Astronomy .....	100.0	95.0	65.0	15.0	0	15.0	5.0	0
Chemistry .....	100.0	96.1	40.2	14.1	36.3	5.5	3.5	.3
Physics .....	100.0	91.2	45.6	14.0	24.6	7.0	8.8	0
Other physical sciences .....	100.0	100.0	20.0	20.0	20.0	40.0	0	0
Earth, atmospheric, and ocean sciences .....	100.0	94.7	44.7	22.3	17.0	10.6	5.3	0
Mathematics .....	100.0	94.9	23.5	52.9	11.8	6.6	5.1	0
Computer sciences .....	100.0	97.6	12.0	42.2	34.9	8.4	2.4	0
Biological sciences .....	100.0	96.6	74.4	9.8	6.6	5.7	3.0	.4
Agricultural sciences .....	100.0	99.0	39.6	22.9	21.9	14.6	1.0	0
Psychology .....	100.0	98.9	39.0	21.1	14.8	24.0	1.0	.1
Social sciences .....	100.0	94.9	13.4	57.1	6.7	17.6	5.0	.1
Non-S&E, total .....	100.0	97.4	6.3	55.2	6.9	29.0	2.0	.5
Grand total, all fields .....	100.0	97.1	24.0	40.5	11.0	21.6	2.5	.4

See explanatory information, if any, and SOURCE at end of table.

Table 10. Percentage distribution of definite postgraduation plans of science and engineering (S&E) doctorate recipients (U.S. citizens and non-U.S. citizens with permanent visas), by sex and major field: 1999

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Field of study	Definite plans	In the United States					Abroad	Location unknown
		Total in U.S.	Postdoc study	Academic employment	Industry employment	Other		
	Men							
Science and engineering, total .....	100.0	95.7	37.8	19.6	26.2	12.0	4.0	0.4
Engineering, total .....	100.0	96.9	18.1	11.6	53.3	13.9	2.6	.5
Aeronautical/astronautical .....	100.0	97.0	17.9	3.0	41.8	34.3	3.0	0
Chemical .....	100.0	96.3	20.0	5.1	67.0	4.2	3.7	0
Civil .....	100.0	96.1	19.5	17.5	39.6	19.5	2.6	1.3
Electrical .....	100.0	98.6	9.3	13.0	64.3	12.0	1.0	.4
Industrial .....	100.0	93.9	6.1	24.5	42.9	20.4	4.1	2.0
Materials/metallurgical .....	100.0	95.2	24.8	8.8	52.0	9.6	4.8	0
Mechanical .....	100.0	96.8	23.2	12.1	47.9	13.6	2.5	.7
Other engineering .....	100.0	96.3	25.4	11.6	41.0	18.3	3.4	.4
Sciences, total .....	100.0	95.3	43.4	21.9	18.5	11.5	4.4	.3
Physical sciences, total .....	100.0	95.0	51.1	9.0	29.8	5.1	4.5	.5
Astronomy .....	100.0	87.7	58.9	8.2	15.1	5.5	12.3	0
Chemistry .....	100.0	96.2	51.7	8.5	33.0	3.0	3.3	.6
Physics .....	100.0	94.3	49.0	9.8	27.2	8.3	5.2	.4
Other physical sciences .....	100.0	100.0	50.0	25.0	25.0	0	0	0
Earth, atmospheric, and ocean sciences .....	100.0	91.9	39.0	13.1	17.0	22.8	7.3	.8
Mathematics .....	100.0	94.6	27.1	42.5	19.1	6.0	5.0	.3
Computer sciences .....	100.0	97.8	5.1	34.4	46.5	11.7	2.2	0
Biological sciences .....	100.0	95.5	73.6	9.3	7.3	5.3	4.1	.4
Agricultural sciences .....	100.0	96.9	28.3	32.3	24.3	11.9	3.1	0
Psychology .....	100.0	98.7	34.3	22.3	18.2	23.9	1.3	0
Social sciences .....	100.0	93.0	10.2	48.7	14.9	19.2	6.8	.2
Non-S&E, total .....	100.0	96.4	5.7	55.4	8.4	26.9	3.2	.4
Grand total, all fields .....	100.0	95.9	27.3	31.3	20.4	16.9	3.7	.4






SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Earned Doctorates



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